ACKNOWLEDGEMENTS

No one writes a dissertation without the support and encouragement of committee members, friends, and family. First, I would like to acknowledge the contributions of my committee, as reviewers of the manuscript. Their comments were seriously read and their suggestions were taken. Most directly, I would like to extend my thanks and appreciation to the energetic faculty at Virginia Tech, whose initial and continued enthusiasm for this project has nurtured it from conception to production. As my advisor and co-chair, Harold Stubblefield, has encouraged and driven me to clarify the written words. Marcie Boucouvalas always challenged me to search for global pictures, multiple perspectives, and new ways of looking at old ideas. Ron McKeen has taught me much about training and consulting. His humor has helped me through the process. Brenda J. Allen kept challenging me about the speech communication aspect of this dissertation. Her knowledge is this field was especially valuable. Special thanks to my research member and co-chair, Gabriella Belli. She has taught me much about the nuts and bolts of statistics and its practical usefulness. Her expertise, humor, and support has given me a new respect for numbers.

Next, on a personal level, I am grateful to my friend, colleague, and professor of speech communication, Joan B. Holm for sharing many humorous and insightful examples of communication in action. She was always helpful, supportive, and a willing listener. Elizabeth Vick and Elizabeth Coughlin also deserves thanks for allowing me to test their students. Most importantly, I would like to acknowledge my mother, Mattie P. Holmes. She has modeled and demonstrated love, determination, persistence, self-discipline, and stamina.

TABLE OF CONTENTS

LIST OF TABLES

List of Figures

CHAPTER I
INTRODUCTION

American society values and rewards skills in public speaking, a one-to-many oral communication situation. Part of the traditional American way of life is an expectation that our leaders in politics, religion, education, and business manifest polished skills in public speaking. Contemporary communicators must cultivate performance skills for live audiences and also for sound bites on televised reports and interviews. Because they fully recognize their need for employees with skills in oral communication, employers demand and hire graduates who are competent communicators. College self-studies for accreditation and assessment of programs often include a communication component that specifies proficient oral communication skills. Despite the importance of oral communication skills, many otherwise-able students and professionals eschew public forums because they are wrestling with an irrational emotion: fear caused by a demand or command to communicate.

Background of the Problem

Fear of Communication

Fear of oral communication is found among people of all ages and in many walks of life. According to a nationwide survey conducted by R. H. Bruskin Associates (1973), public speaking ranked as people's number one fear. More than anything else on a list that included heights, insects, flying, sickness, and death, 40.6 percent of those surveyed said they were most afraid of speaking in public. Motley (1988) confirmed the finding that public speaking was people's number one fear. In a more recent study, Richmond & McCroskey (1995) stated that of the over 60,000 people surveyed about speech anxiety, the results have been consistent across samples from several subject populations: 20% of those populations report high anxiety about speaking.

Fear about presenting ideas before an audience can dramatically affect the way people think, act, feel, and speak. One minister in Florida chose to change his career and become a dean of students at a community college after suffering reverse peristalsis just before entering the sanctuary to deliver his sermon every Sunday morning for ten years (J. Holm, personal communication, December, 1995). The academic term for this fear of speaking is Communication Apprehension (CA).

Because communication apprehension—in its many manifestations—is a very real and serious problem for millions of people, McCroskey (1977) has concentrated much of his research for the past 25 years in this area. McCroskey (1970) created a measurement instrument to identify different levels of CA, and named his original conceptualization of CA the Personal Report of Communication Apprehension (PRCA). He defined CA as ". . . an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (p. 78). Looking at communication apprehension on a continuum, most people fall somewhere in the middle between extremely anxious and extremely relaxed (McCroskey, 1977; 1980; Daly, 1986). McCroskey (1977) also reported that some apprehension is normal and even desirable. All people, including great speakers, exhibit some form of communication apprehension, such as butterflies in the stomach. There is only one difference between professional speakers and others: the experienced speakers have trained their butterflies to fly in formation.

In higher education, many students manifest varying degrees of dysfunctional reactions at the mere thought of oral assignments, and their lives are adversely affected. Their usual anxiety is exacerbated by inexperience and is heightened by classes that require oral presentations. Some students report physiological disturbances—such as heart palpitations, sweating, hand trembling, dizziness, or dry mouths—and others report psychological effects—night-mares, forgetfulness, or unmanageable terror that leads them to consider dropping out of college or even committing suicide

(DeFleur, Kearney, & Plax, 1992). Many university and community college students have limited professional experiences and other real-world speaking experiences. The challenge of alleviating the speech anxieties and fears of these adult learners is likely to be a complex endeavor.

Four-Year Institutions and Communication Apprehension

Extensive research on communication apprehension has been done at four-year institutions—often with volunteer subjects, and sometimes producing inconsistent results. Many studies have reported descriptions, manifestations, and limitations of CA (Daly, 1986; Richmond, 1984; Allport, 1937; McCroskey, 1984; McCroskey, Booth-Butterfield, & Payne, 1989; Daly & Shamo, 1977; McCroskey & Anderson, 1976). The different perspectives of CA, are presented below, along with a discussion of treatments for communication apprehension.

High to Low Communication Apprehension. One perspective of CA is to look at levels of apprehension: high communication apprehension (HCA), moderate communication apprehension (MCA), or low communication apprehension (LCA). Daly (1986) and McCroskey & Anderson (1976) found that scores on standardized tests and grade point averages were consistently higher for LCAs, and that HCAs tended to drop out of school more often than LCAs (McCroskey, Booth-Butterfield, & Payne, 1989). But Bourhis and Noland (1990) reported that HCAs maintained higher GPAs than did moderate and low CAs. This was especially true for the HCAs who were taught in large lecture halls where oral communication was mainly one-way. Based on their research, Bourhis and Noland (1990) concluded that concern for students with HCA is unduly emphasized. They contended that students with HCA can compete effectively in school and often out-perform students with LCA. The differences in the findings indicate a need for research that might add to our understanding of any relationships between CA and grade point average (GPA). It is also important to note that these findings were based on studies where the subjects were enrolled in four-year institutions.

Trait and State Anxiety. Another perspective is to view CA as a manifestation of types of anxiety. In this case, communication apprehension was categorized as an individual characteristic (trait anxiety) or as a temporary situation (state anxiety). Using Allport's (1937) seminal work on the nature and origins of personality traits, McCroskey (1984) concluded that CA can be trait-like without having genetic origins. (In other words, there was no CA gene.) He claimed that CA as a personality trait was not rigid—that is, sometimes CA could manifest itself in some instances (e.g. public speaking) and not in others (e.g. talking with close friends). Moreover, McCroskey (1982) asserted that persons with high communication apprehension (HCAs) generally avoided communication in most communication settings. Daly and Shamo (1977) reported that highly anxious individuals (as a trait) select majors that require little oral communication (e.g. computer science). Although many research studies indicated that CA negatively impacted on academic achievement, they also indicated that there was no relationship between CA and the trait of intelligence (Daly, 1986; McCroskey & Andersen, 1976; McCroskey, Booth-Butterfield, & Payne, 1989). The difference between CA as a trait and CA as a state is that the anxiety of the former lasts over a longer period of time than the anxiety of the latter. In other words, a person can be described as characteristically shy or as shy due to a temporary situation. Either way CA becomes an issue.

Retrospection Regarding Early Communication. Communication apprehension is also influenced by positive or negative childhood experiences, according to some researchers. This historical and psychological component led to studies that reported the effects of memories of early communication experiences (retrospection) upon present-day performance of communication. In one study, high apprehensive university students reported that during their childhood their parents' behaviors relevant to their communication were less positive than parents' behaviors relevant to the

communication of low apprehensive students (Daly & Friedrich, 1981). In other words, HCAs received less encouragement and reward from parents than LCAs. Additionally, this study uncovered that during grade school HCAs received less positive reinforcement from their teachers than LCAs. In a different study, school was not related to CA, but communication in the home was related to CA (Bourhis, Allen, & Wells, 1993).

Treatments of Communication Apprehension. Treatments of CA have been conducted with a variety of subjects recruited from speech courses, psychology courses, and social science programs at four-year institutions, as well as from businesses and various organizations. Many researchers have tested the effects of some treatments for CA (Hopf, Ayres, & Colby, 1994; Kondo, 1994; Allen, Hunter & Donohue, 1989; Biggers, 1987; Connell & Borden, 1987; Ayres & Hopf, 1985; Krugman, Kirsch, Wickless, Milling, Goicz, & Toth, 1985; Fremouw, 1984; Hayes and Marshall, 1984; Marshall, 1982; Jaremko, Hadfield & Walker, 1980; Deffenbacher, Michaels, Daley & Michaels, 1980; McCroskey & Ralph, 1970; Phillips, 1968).

The following treatments for CA have produced generally positive results: skills development (SK), cognitive restructuring (CR), systematic desensitization (SD), and visualization technique (VIS). Among the studies using these treatments, certain ones have demonstrated greater efficacy in many, although not all, instances. For example, the visualization technique (VIS) reduced anxiety in the study by Ayres and Hopf (1985) but had no effect in the study by Nelson and Webster (1991). In some studies, one treatment was isolated and found to be effective in reducing CA (Gross & Fremouw, 1982); in others, some combination of two or three treatments significantly reduced CA (Russell, 1992). Regardless of their differing conclusions, most researchers have agreed that some treatment is better than no treatment. The varied results suggest that further research to compare and contrast one treatment with a combination of treatments might add to the knowledge about CA and might also clarify past research.

Community Colleges and Communication Apprehension

With the increasing emphasis on public speaking skills in business and academic settings, more and more individuals—college graduates or not—are confronted with mandatory speaking situations. Even though communication apprehension is a problem for a large portion of the population, and even though CA has often been studied extensively at four-year institutions, at the community college level there is little research that describes CA and no research was found on the treatment of CA. Communication apprehension at two-year schools is different—and potentially very different—because of the background, experiences, and aspirations of the students. Because of the unique mission of community colleges, the students who attend them are not the same as the typical four-year students. Cohen (1991) described the characteristics shared by all community colleges: (a) Students may enroll without satisfying rigorous entrance requirements for academic preparation and financial backing, thus creating a great need for remedial and financial aid programs; (b) community colleges act as flexible institutions that can organize programs to resolve short-term problems of language preparation for immigrant groups, work force retraining in the face of technological change, and community expectations for post-secondary education of general interest to the local populace; and (c) occupationally-related studies are prevalent in many systems, only sometimes providing general education for pre-baccalaureate course work along with vocational and technical programs.

O'Keefe (1993) described the community college students by saying, “Students enter community college from various backgrounds and levels of preparation. The range of academic quality may be very high to quite low. Nevertheless, the proportion of lower ability students is greater in the community college than in four-year institutions. They also have a wider assortment of motives for going to school than those who choose universities” (p. 3). O'Keefe's study further clarified the

differences between community college and four-year students.

Gabert (1991) reported, “Many persons fail to realize that only a minority of community college students intend to transfer to a four-year institution to get a bachelor's degree. Community college curricula typically include a wide range of occupational programs intended to prepare students for the work force . . .” (pp. 13-14). Hazzard (1993) contrasted community college students with those he termed “traditional students” who were white, middle class, 18-24 years old and adequately prepared for college-level academic work. The “nontraditional students” at community colleges were married, had children, were over 24 years old, financially independent of parents, and responsible for filling several competing roles—only one of which was completing formal educational activities.

Community college students are a special population of students for whom CA may be just one of many challenges in their lives. They are often the first in their families to attempt schooling beyond high school. Gabert (1991) described the demographics of the diverse profile of community college students. Representing a disparate social and economic spectrum, these students range in age from 20-40, with 29 as the average age. Hazzard (1993) further described the nontraditional students as ones who weigh a number of factors when deciding to attend college, such as commitments and responsibilities to spouses, children, and employers. Self-confidence and support from family, relatives, and friends were essential for them to complete courses. Furthermore, a community college is often the first institution of higher learning chosen by students for whom English is a second language (ESL). For example, students who were skilled in the sciences or oral recitations in their native languages look to community colleges to help them to reach comparable skill levels in the English language.

Although several hundred studies have been done on the topic of communication apprehension, just how well does that research apply to students in community college settings? Most of the research done at universities was with an homogeneous population in the first two years at a four-year institution where lecturing is the most common form of instructional delivery. The typical large lecture hall experiences of these traditional four-year college students demand little oral communication. In the two-year educational systems, instructional innovation is encouraged and students are often engaged in cooperative learning, group work, and oral presentations (Cohen, 1991). The emphasis on practical applications and collaborative and cooperative learning at a two-year college quite naturally leads to many demands for students to communicate orally. Students make oral presentations in ways that the more traditional university students might not experience until their upper-level and graduate studies.

Given the more varied backgrounds and age spans, the lower academic skills, and the increased demand for oral participation, it is not surprising, then, that Hayes (1977) reported that high communication apprehension was more widespread for community college students than it was for four-year students. These results were confirmed in a similar study by Ottens & Hruby (1994), who also reported that anxiety can negatively affect the academic achievement of students in community college settings. More research using the special population of community college students might fill an information void. Does the research on CA that used younger, traditional four-year college students apply to the older community college students with more varied backgrounds and life experiences?

While CA may manifest whenever a presentation must be made in any situation at work or in any discipline in college, CA is especially noticeable, readily identified, and appropriately addressed in speech classrooms. Communication apprehension is just one of many normally-anticipated performance problems that occur in speech classes. As more and more community college

instructors in all disciplines use oral reports or class participation to assess and assign grades for a student's understanding of basic class materials (Chesebro, McCroskey, Atwater, Bahrenfuss, Cawelti, Gaudino, Hodges, 1992; McCroskey, Booth-Butterfield, & Payne, 1989; Daly, 1986; Booth-Butterfield, 1986), the issue of communication apprehension becomes increasingly important to all those instructors and particularly those who teach a required speech course.

Required Speech Classes. Many colleges require a communication course as part of their plan for the general education of their students. In 1995, the Speech Communication Association (a national organization for teachers of speech) conducted a nation-wide survey of community college, college, and university speech communication departments (Berko & Brooks, 1995). Seventy-nine percent of the 123 institutions that replied reported that at least one speech course was required by their institutions. An oral communication course (a speech course that includes a unit on public speaking) was required by 92% of 43 community colleges that replied. While HCA students may select majors that require little oral communication (Daly & Shamo, 1977), they cannot escape enrolling in a mandated speech course. The intent of the requirement is to develop oral competencies and decrease any debilitating anxieties.

I have been a Professor of Speech Communication at Northern Virginia Community College (NVCC) for over 17 years and my previous position for two years was at a two-year college in Hagerstown, Maryland. At both of these institutions, one speech class was required for each student who expected to graduate. For many of my students, the completion of a two-year program would be extremely challenging, and, short of a miracle, acceptance at a four-year college would be almost impossible. They are representative of the special population of nontraditional college students often found in community colleges.

I have directly observed the behaviors of at least 8,000 students in the speech classroom setting. When speech presentations were made, some few students have been delighted to communicate in a one-to-many setting and to answer questions, ask questions, seek clarification, or self-disclose, but many other students have actively sought activities that require little or no oral communication. In fact, many of my students resisted taking a speech class, were enrolled for one week and then dropped the course as soon as an oral assignment was made, or called in sick on the day of their scheduled public speech. Some others felt compelled to resort to less-than-honest responses about why they were unable to present their speeches on the assigned day. The very fact that the community college is so diverse sets it apart from the universities. At the Alexandria Campus of NVCC (Office of Institutional Research, 1996), the mean age is 29, and the age range is 16 to 76—with a large portion in their mid- to late- 30s. The minority representation figures are: Asian (13.5%), Black (22.2%), Hispanic (11.2%), Native American (0.6%) and Other (4%). While the Alexandria campus may not be typical of the United States in the 1990s, its present-day demographics seem very similar to the predictions for the multi-racial work force of the 21st century. At this campus, at least two or three students in every speech class each semester verbally reported that they had postponed taking the required speech course until the last semester before their graduation. Their reasons are best summarized: they felt tremendous fear of making presentations before an audience of three or more persons. They exemplify HCA in its most active state or trait.

Statement of the Problem and Research Questions

All formal research and informal studies of professionals in the field and of students in the classroom indicate that communication apprehension is an important phenomenon that affects a large portion of students and professionals. Given that the Bruskin Report (1973) and Motley's (1988) findings were correct when they reported that public speaking is the number one fear of adults in America, and given that the findings of McCroskey and Ralph (1970) and McCroskey (1977) were also accurate in reporting that 20% of the U.S. population suffers from CA, and given

that almost all of the studies of CA were conducted with traditional students, the community college speech classroom is a potentially rich and untapped source of additional information about CA. Even though Hayes (1977) reported that CA was more widespread in community colleges, it is important to know whether some treatments that have been effective in four-year homogeneous groups also work with community college students. That is, given the apparent value of skills training, systematic desensitization, and visualization at four-year institutions, how effective are the treatments with community college students? Additionally, because of the age of community college students and their greater independence, to what extent are past experiences in the home and in school related to CA in community college students?

Most educators in community colleges understand that their particular setting may be a last chance for their students to overcome a lifetime challenge of getting some type of college education. Many of these students regularly face financial and emotional struggles of how to maintain a decent living, stay in school, and provide for the welfare of their families. If these struggles become overwhelming, their self esteem may erode. Because HCAs often drop out of courses or out of college in order to avoid communication anxiety, their behaviors may contribute to a destructive cycle of communication avoidance.

More information and research is needed about communication apprehension for those who study in community colleges where there are frequent demands to communicate orally. The speech classroom provides a good setting in which to study CA as it might manifest as a trait or state in any community college classroom. Our knowledge about communication apprehension for many adults will be expanded by continued empirical research that focuses on (a) the relationship of past experiences to CA and (b) interventions that alleviate CA for community college students.

Purpose of the Study

In this age of accountability, many faculty members are asked to provide data and rationale for their educational programs. Specifically, at NVCC we are encouraged to examine if and how we need to change our curriculum in order to be in a better position for the 21st century. Because a speech course is mandated by the state of Virginia, our faculty continues on its quest to prove the utility usefulness of the introductory speech course. Assessing who our students are, drawing conclusions from demographic patterns, and determining actions are a main part of our curriculum development. Since many of our students complain about their anxieties in a speech course, we are obliged to find ways to help them overcome these speaking anxieties. Speech teachers must provide an environment that enhances rather than inhibits self esteem. Therefore, the purpose of this study is to investigate the effects of a combination anxiety reduction technique (used at four-year institutions for communication apprehension) on community college students in a required basic speech course. A secondary purpose of the study is to examine some of the sources of speech anxiety for these students and to recommend ways of including interventions in a speech curriculum.

Significance of the Study

For over 25 years researchers have been studying the causes of CA, how CA affects students, and various interventions for CA at four-year institutions. To date, these areas have not been adequately researched at community colleges, a special population with high anxiety levels. The findings in this study provide information on the sources of community college students' speech anxiety problems and whether the formal treatments given reduce the students' anxiety levels. Consequently, with a better understanding of these problems, educators at community colleges will be able to assist adult learners in reducing anxiety and thus increasing fulfillment of potential. If the treatments successfully reduce the anxiety levels of these students, the required speech course in community college settings might be revised to include a segment on effective interventions for communication apprehension.

CHAPTER II
REVIEW OF RELATED LITERATURE

While researchers have discussed anxiety since the early 1900's, speaking anxiety or communication apprehension (CA) has only been a topic of discussion for two decades. Topics relating to CA include academic achievement (McCroskey, Booth-Butterfield, & Payne, 1989), academic advising (Hawkins, 1994), treatment of CA (Cronin, Grice, & Olsen's, Jr., 1994), learning a second language (MacIntyre & Gardner, 1991), as well as other special populations: stutterers (Neiman & Rubin, 1991), bilingual (Courtney, Liebowitz, & Fischer, 1991), gifted (Rosenfeld, 1995), high communication apprehensives (Proctor II, Douglas, Garera-Izquierdo, & Wartman, 1994), parenthood (Sellnow, 1993), at-risk (Chesebro, McCroskey, Atwater, Bahrenfuss, Cawelti, Gaudino, & Hodges, 1992), and international populations (Bourhis, Thachuk, & Allen, 1993). And while the CA research seems ample on various populations, one segment of the adult population is almost omitted—community college students.

In this related literature review, information is presented by key researchers in the field of anxiety and research done at four-year institutions that relates to the causes of CA, the effects of CA, and the treatments of CA is summarized. The concluding section focuses on the populations at community colleges.

Key Participants in Anxiety Research

The phenomenon of anxiety was first identified for research by Freud (1924). Freud regarded anxiety as an unpleasant affective *state* or condition that included physical conditions such as rapid heart palpations and sweating. Originally, he believed that anxiety resulted from repressed sexual needs. His theory was that as a person receives visual images of lustful ideas (knowing this perception as dangerous), he quickly represses them. These unrealized sexual desires are then transferred into anxiety. Freud later revised his theory to also include threatening situations as causing anxiety. His last revision differentiated between anxiety and neuroticism. They were later labeled as objective and neurotic anxiety. Objective anxiety was referred to as an “external danger” and neurotic anxiety indicated “internal danger”. In other words, objective anxiety was derived from a *real* dangerous situation in the external world that was perceived on a conscious level as threatening. Conversely, neurotic anxiety was an *imagined* dangerous situation in the internal world that is perceived on an unconscious level as threatening. Typically, neurotic-anxious individuals act on aggressive or sexual impulses (for which they were consistently punished as children); they fear punishment, and they attempt to reduce objective anxiety by repression. Subsequent investigators used more sophisticated techniques to describe different types of anxiety.

Cattell and Scheier (1961) were the first to use a factorial analytic method to explicate the distinction between state and trait anxiety. This variation differed because of the procedures by which the factors were isolated and the variables which “loaded” on them. The trait anxiety factor (first labeled as characterological) was interpreted as measuring stable individual differences in a permanent personality characteristic. The state anxiety factor was based on a pattern of variables that covaried over occasions.

Cattell and Scheier used factor analysis to identify and clarify descriptions of trait versus state anxieties. Trait factors included (a) high ergic tension—self-report items revealing the tension that arises from frustration of any drive (for example, the drive for sex, safety, belonging, or love); (b) high guilt proneness—feelings of unworthiness, guilt, and worry; (c) lack of will control—lack of self-respect and lack of will power; and (d) ego weakness—emotional immaturity and instability. When Cattell and Scheier assessed state anxiety, they discovered: fast rate of respiration, high plasma of 17-OH in the blood, high level of anxiety, faster heart rate, lack of confidence in skill in untried performances, increase in systolic pulse pressure, increase in heart rate, and increase in

respiration rate. These researchers found that the main difference between trait and state anxiety related to the extent to which these factors were distributed. For example, if a subject scored high on the psychological test, then the subject was considered to have trait anxiety, but if the subject scored high on the physiological test, the subject was in a state of anxiety.

Even though Cattell and Scheier provided some information about differences between state and trait anxiety, Spielberger (1970) provided more clarity to the distinction. He defined the state of anxiety as: ". . . a temporal cross-section in the emotional stream of life of a person, consisting of subjective feelings of tension, apprehension, nervousness, and worry and activation (arousal) of the autonomic nervous system" (p. 3). Trait anxiety, on the other hand, according to Spielberger, is an enduring or stable characteristic of a person. Several researchers have joined Spielberger in describing similar differences. Trait anxiety is described as predictable responses and state anxiety is an occurrence in a single observable event (Allport, 1937; Eysenck, 1981).

Although Cattell and Scheier (1961), Allport (1937), Spielberger (1970), and Eysenck (1981) sought to distinguish state and trait anxiety, Allen and Potkay (1981) stated unequivocally that the distinction is arbitrary at best, indicating that the difference is mainly due to duration of the anxiety. In other words, Allen and Potkay claim that the sole difference is that trait anxiety lasts longer than state anxiety. These two researchers stand out because they are among the few who have questioned the distinction between trait and state anxiety.

McCroskey (1984), an early pioneer and seasoned researcher in CA, argues for a more moderate approach. He wanted the dichotomy between trait and state anxiety dismissed and replaced by a continuum. He contends that to view all human behavior as either traitlike or statelike ignores the interaction of these two aspects. McCroskey claims that people do not behave the same in all situations, especially in life threatening ones. He sees anxiety on a continuum, ranging from an extreme trait pole, which McCroskey calls trait-like CA to an extreme state pole, which he refers to as situational CA, admitting that, realistically, either extreme anxiety condition is unlikely.

Such arguments for the classification of CA as being either trait or state, or whether both are at opposite ends of a continuum, are peripheral because the major issue is that CA is an enduring problem in our society. Using four-year college students, McCroskey and Ralph (1970) discovered that 20% of the students in basic speech classes are apprehensive. Moreover, McCroskey (1977) posited that high communication apprehensives (HCAs) are similar to disabled learners. However, the normative data for CA among the community college population has not been determined. If the concern is as grave as McCroskey asserts for four-year college students, then how grave is the problem for community college students? Educators for these adult learners might be well served by those who focus research and provide information concerning community college students and their communication anxieties and thus develop an even larger store of knowledge about communication apprehension.

The previous section has provided a sketch of the development of anxiety and CA at four-year institutions. In the next section the sources of trait and state anxiety are examined.

Origins of Communication Apprehension as Personality Characteristics (Traits)

Heredity

One of the main sources for trait anxiety is heredity. Heredity presumes that certain babies are born with and predisposed toward certain personality traits (DeFleur, Kearney, & Plax, 1992). Researchers have established that one element of these personality traits is social traits. Social traits in infants are strongly related to adult sociability which is defined as ". . . the degree to which we

reach out to other people and respond positively to contact with other people" (McCroskey & Richmond, 1981, p.6). For example, some might be born with high CA or low CA.

Environment

The environment is another source of CA. DeFleur, Kearney, and Plax (1992) developed a theory about the foundations of CA by using social learning (modeling) theory (Bandura, 1977) and reinforcement theory (Seligman, 1973). The social learning theory states that people learn high or low CA by observing the behaviors and reactions of people who are in their environment. As children start to emulate the behaviors of others, they go through a series of trials, accepting some behaviors (such as fear of speaking) and discarding others (like confidence in speaking). The social learning theory is limiting because it assumes that all infants learn and emulate the behaviors that they see in their homes. That theory falls short of universality. All the children from one family, even though they may be raised the same way, may not imitate the same behaviors seen in their homes. Researchers sought other explanations for how a child developed CA.

An alternative etiology of CA can be derived from the reinforcement theory by Seligman (1973). This theory states that individuals try a number of communication behaviors—if the consequence is positive, they continue to communicate; if the consequence is negative, they stop communicating. This theory provides information about why some people enjoy communicating and others do not. DeFleur, Kearney, and Plax (1992) gathered additional information about this theory. They reported that many HCAs lack resiliency, thereby expecting their failures to be repeated—while moderate CAs (MCAs) and low CAs (LCAs) are resilient enough to repeatedly try for more positive results.

Extensive work on CA has been done by Bourhis, Allen, and Wells (1993) and Daly and Friedrich (1981). They asked their subjects to recall past communication behaviors in the home and in the school environment and labeled the process "retrospection". Retrospection is based on social learning and reinforcement theories. Daly and Friedrich's (1981) study on retrospection showed how home and school life influences CA. Their findings indicated that HCAs experienced less positive communication behaviors from their parents than LCAs. In other words, HCAs did not feel that their parents encouraged or rewarded them for communicating in the home (The home-parent subscale accounted for 13% of the variance.). A second finding was that grade school (but not high school) had a stronger relationship with CA than home. LCAs experienced positive communication experiences and only received a few corrections for communication in grade school (The school subscale accounted for 15% of the variance.).

Replicating Daly and Friedrich's 1981 study, Bourhis, Allen, and Wells (1993) agreed that HCAs reported more negative parental behavior towards communication than LCAs (The parent-home subscale accounted for 18% of the variance.). In other words, the parental behavior contributed significantly to the development of communication apprehension in children. This latest research included the father's CA level (Bourhis et al., 1993). Bourhis, et al. explained this added variable by mentioning that past research reports that children model their fathers' behaviors more than their mothers' behaviors. That being the case, Bourhis, et al. wanted to know if there was a relationship between the child's CA and the father's CA. Indeed, they discovered that the father's CA level played a significant role in the development of the child's CA level. (The father's CA level accounted for 9% of the variance). Unlike Daly and Friedrich's (1981) study that indicated school significantly contributed to the child's development of CA, Bourhis et al. (1993) discovered that school had no bearing on the student's CA level.

While a relationship exists between university students' CA level and their parents' communication behavior in the home, the magnitude is unclear, with one study claiming that parent-home accounts

for 13% of the variance and another study reporting 18%. Furthermore, the relationship between student's CA level and school is ambiguous.

Origins of Communication Apprehension as Apprehensive Experiences (States)

Situation

Buss (1980) makes the claim that novelty, formality, subordinate status, conspicuousness, unfamiliarity, dissimilarity and degree of attention from others are causes of state anxiety. However, Beatty, Balfantz, and Kuwabara (1989) only agree with the novelty claim, arguing that all other characteristics previously described by Buss (1980) are actually traits. Evaluation and prior history were also added to state anxiety (Daly & Hailey, 1983). The disagreements about anxiety led to research of other origins of CA.

Preparation/Planning

Another explanation of state CA is related to preparation and planning. Pelias (1989) examined 25 speech textbooks and discovered that the majority of the speech authors maintained that the "lack of proper preparation" (1989, p. 47) is one of the major causes of speaking anxiety.

In other studies, Ayres and Raftis (1992), Kondo (1994), Daly (1989), and Ottens and Hruby (1982) also investigated CA from the perspective of preparation/planning. However, the meaning of the term preparation/planning is never defined and differs in each study. For instance, Daly (1989) describes speech preparation as determining the length of a speech. Kondo (1994), on the other hand, characterized preparation as "Speakers usually have adequate forewarning of an impending speech to prepare. Preparation reduces the uncertainty a speaker may feel about the upcoming presentation, thus alleviating PSA [public speaking anxiety]" (p. 23). Likewise, the Ayres and Raftis' (1992) article only mentioned that preparation time did not produce an effect on university students' state CA. (What they meant by preparation time was only vaguely expressed.) Still, Ottens and Hruby's (1982) study conducted with university and community college students mentioned preparation and planning as one of eight coping strategies used by students to reduce anxiety. They claimed, "Students coping response is characterized by preparation and planning before an anticipated academic event" (p. 5).

Once again this brings into question how preparation was operationalized. Does preparation reflect hours researching the speech? Or time writing up the speech? Or maybe the time practicing the speech silently or aloud? Given a proliferation of meanings for preparation and/or planning, it is difficult to ascertain how all these researchers characterized the terms.

Other Factors Relating to Communication Apprehension

Cultural Differences

In addition to heredity, environment, and apprehensive experiences as sources of CA, cultural differences also relate to CA. Mordeno, Cambra, and Klopf (1980) explored CA from the perspective of cultural differences. The sample consisted of 1, 842 students, with an equal number of females and males ranging in ages from 18 to 24 from various cultures and academic disciplines. All students used English as a first or second language. Their findings indicated that Koreans were the least apprehensive, while Japanese were the most apprehensive. Interestingly, Americans were second to Japanese in their CA level. It should be noted, however, that the research was done at the University of Hawaii and that many "Americans" in this study (62%) were Japanese-Americans. These Japanese-Americans displayed communication behaviors similar to those in Japan (reticence in communication). Mordeno et al. explained the Koreans' low communication apprehension level by noting that the Korean culture often encourages individual opinions. On the other hand, the Japanese culture places more emphasis on harmony and avoiding

open confrontation. An earlier study conducted by Klopf and Cambra (1979) and a later study by McCroskey, Gudykunst, and Nishida (1985) confirmed that Japanese are most apprehensive and Koreans are least apprehensive.

McCroskey et al. looked at CA from the bilingual speakers' perspectives. Using bilingual Japanese students from Nihon University, McCroskey et al. found no relationship between self reported CA and the language in which the speeches were delivered—Japanese or English. However, in a related study, Miura (1985) found a relationship between bi-dialectical speakers—speakers who speak two or more dialects—and CA. Her study indicated that native Hawaiian students from the University of Hawaii at Hilo were more apprehensive when they made speeches in standard English than when they delivered speeches in pidgin, a dialect used by multiple ethnic groups in order to communicate. The findings revealed that the level of CA in bi-dialectical speakers is increased when they are not speaking their childhood dialect. Similar findings were obtained for Hispanic-Americans (Courtney, Liebowitz, & Fischer, 1991). That is, the Hispanic subjects experienced less CA when they spoke Spanish.

Age

Although age does not directly appear to be addressed in the CA literature, several writers have focused on the role of anxiety for the adult learner. One study dealing with traditional students (under age 25 and entering college for the first time) and non-traditional students (over age 25 and returning to complete Baccalaureate degrees, teacher certification requirements, or those who were entering college for the first time) reported that non-traditional students had less anxiety than traditional ones (Yarbrough & Schaffer, 1990). They had predicted more apprehension for older, non-traditionals. Except for non-traditional women when they took timed tests or when they gave oral presentations, non-traditional students showed less apprehension. To explain the unpredicted results, the researchers speculated that the less-inhibited older adults might have openly expressed their fears and thus reduced stress caused by repressing negative emotions. Yarbrough and Schaffer concluded that life experiences can reduce school anxiety as well as expand coping options for anxiety.

Using a hierarchical regression analysis, Hill and Vandervoort (1992) discovered that anxiety in older adults (over age 60) was negatively related with free-recall. In other words, the more state anxiety that older adult learners have, the less they are able to recall. The variables related to free-recall were: the amount of time spent studying (this made the largest contribution), then age, state anxiety, and vocabulary were of diminishing importance.

Another study explored subject anxiety in adult learners—defined as anxiety manifested by enrollment in a particular course such as biology, math, or literature (Usera, 1984). Differing from Yarbrough and Schaffer's (1990) and Hill and Vandervoort's (1992) research, Usera's study of community college students concluded that age was not significantly related to an individual's anxiety level. Yet, in another study, one researcher/educator remarked “Adult learners often experience great anxiety in the classroom, fear of failure, and doubt their ability” (Ackley, 1980, p. 6). As a factor contributing to CA, age continues to produce inconsistent results in various settings.

Effects of Communication Apprehension

In the previous section the literature on the origins of CA was reported, but it is also important to explore the effects of CA. Of interest to many researchers is how CA impacts on academic achievement.

Academic Achievement

Communication skills, especially oral communication skills, are essential for success in all levels of schooling—kindergarten through post graduate programs. Teachers often use oral reports or class participation to assess a student's understanding of basic class materials in various subjects. Communication apprehension impacts academic achievement as measured by grade point averages (Chesebro, McCroskey, Atwater, Bahrenfuss, Cawelti, Gaudino, Hodges, 1992; McCroskey, 1989; Daly, 1986; Booth-Butterfield, 1986; McCroskey, Booth-Butterfield, & Payne, 1989).

Daly (1986) conducted extensive research on communication apprehension in the college classroom. He noted that in communication settings high apprehensives talk with less frequency, offer more irrelevant comments, interrupt less often, have longer pauses before responding, disclose less about themselves, are more submissive and are more conforming in group settings. As a consequence, high apprehensives are often viewed by others as less attractive, less friendly, less attentive, and less responsive than low apprehensives. Greater apprehension is positively correlated with lower self-esteem, and with greater loneliness.

Daly's research findings consistently indicate little or no correlation between intelligence and communication apprehension. Nevertheless, most studies report clear and significant relationships between educational achievement and apprehension. Daly (1986) demonstrated that scores on standardized tests and grade point averages (GPAs) are consistently higher for low apprehensives.

Studies by Chesebro et al. (1992), McCroskey (1989), Daly (1986), Booth-Butterfield (1986), and McCroskey, et al. (1989) found strong evidence to suggest that communication apprehension is related to grades in high school and college, and scores on standardized tests. Furthermore, they have confirmed that students with high communication apprehension are more likely to receive low grades and to drop out of school than students with low communication apprehension.

As stated in Chapter One, the research by Bourhis and Noland (1990) did not substantiate the previous findings. In fact, they discovered that high communication apprehensives maintained higher GPAs than did moderate and low CAs. Other researchers report different results. Ericson and Gardner (1992) did not find significant differences in academic achievement between students with high communication apprehension and students with low communication apprehension. However, Ericson and Gardner found that the school drop out rate for students with high communication apprehension was significantly higher than for students with low communication apprehension. Allen (1985) and Comadena (1984) have reported similar results with high communication apprehensives. In these studies the high communication apprehensive students did not receive lower final course grades than did moderate or low communication apprehensive students. However, a study of 24 industrial education students conducted by Miller & Edmunds (1992) reported a negative correlation between academic achievement and communication apprehension (the more CA, the lower the academic achievement of these industrial education students).

Past research about anxiety clearly relates and applies to traditional classroom settings. First, many teachers tend to measure certain performances through evaluation of oral communication. In some courses, such as foreign language and English courses, oral communication skills are part of the subject matter and evaluation of oral skills is essential; however, many teachers of social science and life science disciplines, for example, use oral reports or class participation to measure a student's understanding of basic class materials (Chesebro et al, 1992; McCroskey et al., 1990; Daly, 1986; Booth-Butterfield, 1986). Unfortunately, teacher-student dyads or small group discussions, with a teacher who falls in the category of a stranger or acquaintance often create the conditions of high apprehension that lead to poor student performances.

In addition, research indicates that, at the unconscious level, teachers are likely to have negative expectations for quiet students and a positive bias toward low apprehensive students (McCroskey, 1990; Daly, 1986; Comadena, 1988). Alternatively, and perhaps unintentionally, many teachers have reinforced quietness and punished talkative students to prevent disruptive behavior in the classroom. Demands for absolute quiet in a classroom cannot only reinforce a high apprehensive's tendency to avoid communication, but can also create apprehension where it did not previously exist (McCroskey, 1990; Daly, 1986).

While no literature was found concerning students' academic achievement and CA levels at community colleges, some related knowledge has been published. Hayes (1977) reported that community college students are more apprehensive than their four-year counterparts. Just how this information relates to academic achievement is unknown.

Treatments for Communication Apprehension

Much has been written about treatment for anxiety in the CA literature. The articles about treatments for anxiety consist of both conceptual and empirical studies. Conceptual articles relating to reducing one's fear of speaking publicly range from using humor in the classroom (Stowell, 1994; Sellnow, 1993) to creating visual representations of one's fear in the classroom (Hayward, 1993). Cohen (1983) wrote an article that is noteworthy.

Cohen's research occurred in a noncredit community service course on overcoming speech anxiety which was developed at Prince George's Community College in Largo, Maryland. It lasted for three (two-hour) sessions over three weeks. The unanticipated enrollment came largely from the community; the average age of the enrollees was 40. The experiences of these volunteers ranged from people who avoid communication with most people to people who are willing to speak in public in spite of feeling discomfort. Cohen used the following approaches to alleviate speaking anxiety: establishing a support group, administering a relaxation exercise while using a systematic desensitization technique (participants created a hierarchy of speaking situations and then were asked to imagine those situations while in a relaxed state), using cognitive restructuring to improve self-confidence (participants created a negative list of expectations regarding public speaking and then substituted that list with coping statements), and providing instruction for some abbreviated material usually covered in a public speaking course. Through written evaluations, these adult learners indicated they were less apprehensive about speaking because they had more knowledge about their anxieties.

Empirical studies of CA have sought to determine the effectiveness of different treatments. Some authors proposed reticent courses for HCAs. Phillips (1986) describes reticent individuals as those avoiding social situations in which they believe they cannot perform competently. Two large universities, Oklahoma State University and Pennsylvania State University, have reported success with their reticent programs (Mandeville, 1993; Kelly & Keaten, 1992, respectively). For instance, Kelly and Keaten (1992) studied students who took a basic public speaking course as an elective course at Pennsylvania State University (PSU). Students could choose to take either a regular section or a special section for reticent students. A control group from a neighboring university consisted of volunteers in introductory computer science courses. The researchers used standardized measures to analyze shyness and communication apprehension both before and after completion of their courses. Kelly and Keaten recruited 177 upperclassmen for this study. Although the duration of treatment is not stated, it is reasonable to assume that treatment lasted for one semester. Both treatment groups received skills' training in interviewing, interpersonal communication, group communication, and public speaking. The description of the reticent option is similar to Phillips' rhetoritherapy, and states, “. . . an individualized speech skills training

program for each individual regardless of the individual's physical or mental condition" (Phillips, 1986, p. 361). Results of Kelly and Keaten's (1992) study indicated that the PSU Reticence Program was more effective in reducing shyness and communication apprehension than either the control group or the regular speech group. Although the reticent program may appear superior to the regular speech course, Kelly and Keaten (1992) admit that both treatment groups showed a significant decrease in anxiety for public speaking.

Connell and Borden (1987) argue that there is no need for a special speech section for reticent students. They claim that all students, not merely HCAs, can benefit by learning how to reduce anxiety in a regular oral communication course. In other words, everyone needs to know how to reduce speech anxiety, possibly because CA as a state is inextricably linked to public speaking.

While special treatment sections of basic speech courses have been offered at some universities and through the community services divisions at others, the cost for running sections for these special populations is beyond the means of most community colleges and many universities in the era of financial accountability. Thus, research conducted with homogeneous, conventional class sections will be necessary and useful for most research in the area of CA.

Most empirical studies in CA treatment have sought to provide successful results with four techniques: (a) systematic desensitization (McCroskey, Ralph, & Barrick, 1970), (b) cognitive restructuring (Cronin, Grice, & Olsen's, Jr., 1994), (c) visualization (Ayres, & Hopf, 1985), and (d) skills training (Biggers, 1988).

Systematic Desensitization (SD)

The systematic desensitization technique was originally developed in the field of psychology by Wolpe (1958) and later expanded by McCroskey (1972) to include in the CA literature. Basically, the technique involves three phases. First, the speaker is taught how to relax by contracting and relaxing each part of the body. Second, the CA trainer assists the speaker in creating a hierarchy of anxiety-provoking situations in public speaking. Third, the speaker is taught how to associate relaxation with each item created on the anxiety-producing hierarchy, starting with the least anxious situations and concluding with the most anxious ones.

McCroskey, Ralph, and Barrick (1970), McCroskey (1972), Rossi and Seiler (1989), and Gross and Fremouw (1982) applied systematic desensitization for reducing speaking anxiety (see Appendix Table A1). McCroskey et al. (1970) conducted a study with 21 volunteers, using SD treatment in a seven hour treatment session that was delivered over three and one-half weeks. The session was conducted in groups of five. The students receiving SD had significantly lower anxiety levels than those students who did not participate in the treatment.

Taking a slightly different line of inquiry, McCroskey (1972) investigated the relationship between sex of trainer for SD treatment, sex of student receiving training and student's speaking anxiety level. This treatment ran for six hours over six weeks. His sample consisted of male trainers administering SD in regular classrooms, females trainers administering SD in regular classrooms, male trainers administering SD in labs for SD, and instructors who did not administer the SD treatment. McCroskey used 541 anxious students. His findings indicated that the sex of the trainer did not have a major impact on the effectiveness of SD. Although SD appeared more effective for males than for females, the difference was non significant. When all treatment groups were compared to the control group, students who learned to use SD improved more than those who did not. In a delayed testing of anxiety levels, the effects of the SD treatment wore off over time but the SD group was still significantly less anxious than the control group.

Other studies have sought to compare SD with new approaches (Rossi & Seiler, 1989). Rossi and Seiler compared the effectiveness of SD to an integrative approach (IA) in treating public speaking anxiety with 12 HCAs enrolled in a basic speech communication course at a large university. In essence, the IA approach aids students in focusing on positive experiences instead of the negative ones discussed in the SD technique. For a four-week duration period, subjects were asked to listen to a relaxation tape once a week, keep a journal, meet with a small group, and attend a final meeting after delivering the last speech. Subjects were randomly assigned to two experimental groups: half of them listened to a SD relaxation tape, while the other half ". . . listened to an integrative relaxation training tape that combined sensory awareness, breathing, and visualization techniques " (p. 57). Their results revealed no difference between SD and the IA approach. However, they found that IA is more effective in decreasing the symptoms associated with public speaking anxiety.

In another study, Gross and Fremouw (1982) wanted to determine the effectiveness of SD and CR treatments on three major measures: physiological (heart rate and skin conductance levels), behavioral (presence or absence of 14 behaviors), and cognitive (self-described feelings during speaking). Sixty-three highly fearful speakers met for five hours of training over two weeks. Both treatments were significantly better than the control groups at reducing CA on all the major measures.

Cognitive Restructuring (CR)

Another effective intervention for CA is cognitive restructuring (CR), according to Fremouw (1984). Fremouw expanded on Ellis' (1957) rational emotive therapy (RET) and introduced what is now known as CR, a specific pattern for self-talk. Participants, using the CR technique, list their negative expectations regarding public speaking situations and work through each expectation with a realistic coping statement. The underlying premise for CR is that some private intrapersonal thoughts pertaining to self-communication are irrational and cause anxiety. Examples of irrational thinking are, "No one wants to listen to me"and "I feel like I am going to die when I have to present a public presentation." Basically, CR deals with countering the clients' negative critique of self-worth as communicators with more positive, intrapersonal coping statements.

Cronin, Grice, and Olsen (1994), Hayes and Marshall (1984), and Nelson and Webster (1991) have used CR in reducing CA (see Appendix Table A2). Cronin, Grice, and Olsen (1994) used 138 students in their three groups. In addition to the control group, a group of students received interactive video instruction (IVI) on an average of 46 minutes, while another group received lecture/linear videotape (LLV) for 45 minutes. Both treatment groups learned similar information on the CR technique. The main difference between the two treatments is that one uses an interactive approach and the other uses a lecture, IVI and LLV, respectively. The IVI approach uses a video interactive approach that allows students to learn content of CR through a tutorial/simulation that includes activities, questions, and practice exercises. Feedback is also a major part of this treatment. The LLV approach uses outstanding speech lecturers who present lectures on the same content as that on the interactive video approach. Part of the lecture includes a video tape on CR's content. Treatment took place during the second week of the semester. The control group received no training on speech anxiety. Cronin et al. (1994) examined three measures to determine the effectiveness of the groups. For the immediate CR test and the delayed CR test, both IVI and LLV groups showed significantly higher cognitive test scores and a reduction in anxiety over the control group. Although IVI and LLV groups significantly reduced anxiety over the control group, when the more apprehensive students' scores were examined independently, none of the three groups had significantly reduced anxiety after four weeks of treatment.

Hayes and Marshall (1984) from a psychology department wanted to determine the effectiveness of CR. They used CR, and SK alone, and with other treatments. Fourteen subjects were assigned to each of three treatment groups as well as to a control group, totalling 56 participants. Ads offering treatments for public speaking anxiety enticed participants to volunteer from the university and local communities. Treatments were given twice a week for two hours over eight sessions. The CR technique alone proved virtually ineffective. However, skills training alone, was so powerful that adding other treatments like SD or CR weakened the benefits of anxiety reduction.

Nelson and Webster (1991) used two treatment groups, VIS and CR, and a control group. Students were instructed about either VIS or CR after their first speech and told to practice the treatment at home. Both treatment groups listened to a 20-minute audio-tape on the content and use of either CR or VIS. The findings indicated that there was no difference between the groups. Moreover, there was no significant reduction of CA for either the CR, VIS, or the control groups. One reason for the failure of the effectiveness of the treatment groups might have been the way the treatments were administered. Giving a treatment after a speech and not before a speech may not really show the effectiveness of the treatment. Another factor that may have interfered with the effectiveness of the treatments is having students engage in home practice of the treatment prior to giving a speech. Although it might be ideal to expect students to follow directions in an uncontrolled environment, there is no way to ensure that students will actually do the assigned homework.

Visualization (VIS)

A relative newcomer to the remediation of CA is the visualization technique (VIS). While Ayres and Hopf (1985) were the first researchers to develop and use the treatment in reducing speaking anxiety, its foundation is based on Assagioli's (1971) research on psychosynthesis. Psychosynthesis involves finding one's self and then creating a new unified self, both personally and spiritually. This process can be accomplished by having a clear vision of one's goals with the ultimate purpose of reaching the new self. Ayres and Hopf (1985) explained, “A mastery of self control is at the heart of this synthesis [psychosynthesis]. From this perspective, the effectiveness of visualization in reducing speech anxiety would be attributable to learning a means of self control over one's fear by stressing positive visualizations” (p. 322). In the visualization technique, an individual does not necessarily change the entire self, but may elect to change only those desired areas (e.g. fear of speaking). In essence, the technique of visualization involves controlling the evoked and created images. Assagioli (1971) maintained that an image is associated with a motor-drive or an action. For instance, when an image of seeing oneself effectively speak in public is evoked, the self acquiesces.

Recent studies have explored VIS in comparison to other techniques as well as VIS plus other treatments. Ayres and Hopf (1985); Ayres, Hopf and Ayres, (1994); Hopf, Ayres, and Colby (1994); and Halvorson (1993) have employed the visualization technique (see Appendix Table A3). Ayres and Hopf (1985) conducted a study with 430 university students enrolled in several sections of a basic public speaking class and 15 instructors to determine whether VIS was an effective treatment for speech anxiety. All instructors taught two classes, one was an experimental group and one was a control group. Five of the experimental classes received VIS prior to giving their first speech, while an additional five experimental classes received VIS prior to presenting speeches one and two. The five control classes received no treatment. The VIS treatment lasted for 10 minutes. Ayres and Hopf used a factorial design with two variables. These independent variables were prior experience in public speaking (minimal = having given fewer than 5 speeches or considerable = having delivered 5 or more speeches) and varied treatments (not using visualization, using visualization prior to one speech, or using visualization prior to two speeches). Prior experience and visualization were significant beyond the .01 level using an ANOVA. In

essence, the inexperienced speakers decreased their anxiety levels more than the experienced ones and the MCAs and the HCAs who used the VIS lowered their levels of anxiety. The HCAs reported the most reduction. However, LCAs in both the experimental and control groups showed no marked differences.

In another study by Ayres, Hopf, and Ayres (1994), performance visualization (perfVIS) was utilized since it combined skills, cognitive, and affective approaches—like those discussed earlier—into one technique. Performance visualization, relying heavily on imagining ability, includes ". . . a guided script detailing a successful speech; people are asked to watch a speech and 'make a mental movie' of it. After they have 'made a mental movie,' they are asked to replay it in exact detail without benefit of being able to see the speech. They are then asked to 'become' the speaker in the mental movie" (p. 253). Admittedly, these researchers presumed that this technique would be more effective for those who were vivid imagers than for those who were less creative. The sample for this study was 59 HCAs enrolled in large introduction to mass communication classes at a medium-sized university. These students were randomly assigned to three groups: experimental (those that worked through the steps of the performance visualization), placebo (those who watched a 45-minute videotape of a lecture on mass communication), and control (those who remained in the room while the instructors left the classroom for 20 minutes). Vivid imagers and less vivid imagers were equally assigned to the three groups.

Ayres et al. used a pre-test/post-test control group design, with the independent variables as the treatment groups and the dependent variables as trait anxiety, state anxiety, and mental imagery. The results of this study revealed that students who received training in performance visualization reported lower trait CA, lower state CA, and fewer negative thoughts than the placebo and control groups. However, as expected, the effectiveness of performance visualization is counterbalanced by imaging ability. More than any other group, vivid imagers reported a greater reduction in trait CA, state anxiety, and negative thoughts. Ayres et al. concluded this study by cautioning other researchers that although performance visualization may reduce CA in some individuals, the technique may be more effective for those who are vivid imagers.

Acknowledging limited success with performance visualization, Hopf, Ayres, & Colby (1994) designed another study using visualization (VIS)—a cognitive approach, this time to determine if it could reduce CA in initial interactions. Using 66 HCAs, these researchers hypothesized that those exposed to VIS would report lower trait and state CA while interacting with strangers. Subjects were paired with strangers for 10 minutes and at the end of the first interaction they completed a state CA measure. This served as a pre-test. They were then randomly assigned to one of three different groups. ". . . Ss in the treatment condition were exposed to a visualization script for interpersonal communication. The placebo group was given a short lecture (content of lecture was not disclosed). In the control group, the experimenter excused himself/herself, indicating he/she would be back shortly. After 15 minutes had elapsed, the experimenter returned and announced that another interaction would take place" (p. 58). Each subject was again paired with another stranger for a second 10 minute interaction, after which they completed a trait measure and a state measure. Using ANOVAs, these researchers discovered that visualization was related to lowering both trait and state anxiety. Thus, VIS proved useful in treating anxiety about initial interactions and reduced anxiety for some in public speaking situations.

Another study demonstrated only temporary effects of treatments for reducing anxiety (Halvorson, 1993). Halvorson conducted a study with 195 students from 10 public speaking classes. She divided the students into three treatment groups—exit (students exited the room five minutes prior to delivering their speeches), physical (students did a physical workout five minutes prior to delivering their speeches), and VIS (students engaged in a visualization activity five minutes prior

to delivering their speeches). The control group was designated as remain (students remained in the room prior to delivering their speeches). While Halvorson's findings indicated that there was a significant reduction for trait CA in all four groups, including the control group, it is reasonable to assume that something other than the treatments could have caused the reduction. As for the state CA, the physical and visualization treatments showed significant reduction only prior to the second of three speeches. This meant that the effects of treatments were temporary. Halvorson suggested that other researchers replicate her study with different ages. Because the community college population has a variety of ages, a study similar to hers might very well produce different results.

Since studies by Ayres and Hopf (1985) and Hopf, Ayres, and Colby (1994) concluded that VIS appears to be effective in reducing anxiety, and the Halvorson study indicated a less-than-desired result, future studies with different populations could provide additional information about the usefulness of VIS.

Although cognitive restructuring (CR) and visualization (VIS) treatments appear to be effective in reducing anxiety, VIS may be more desirable. CR frequently involves a therapist or a highly trained assistant cognitively changing or altering a client's belief about the speaking situation. This process can take an extended period of time to learn and execute. VIS, on the other hand, requires considerably less time (5 minutes) and can be managed by a lay person.

Skills Training (SK)

Although minimally successful according to Allen, Hunter, and Donohue (1989), the final technique for explication is skills training (SK). SK grew out of Phillips' (1968) rhetoritherapy. The rhetoritherapy or skills training method addresses anxiety indirectly while directly teaching interpersonal communication skills (perception, interviewing, verbal and nonverbal communication, and listening skills) small group communication skills (relationships, problem-solving, leaderships skills, and conflict resolution) and public speaking skills (selecting topics, researching topics, organizing a speech, and delivering a speech). Phillips' basic tenet is that individuals lack the necessary skills to perform in speaking situations and that once those skills are obtained the speaking deficiencies are reduced. Other researchers have generally provided support for the SK approach (Bigger, 1988; Hayes & Marshall, 1984).

Support for Phillips' theory (1968) in skills training is reported by Biggers (1988, see Appendix Table A4). The sample of 72 respondents consisted of five sophomore level public speaking classes as the treatment groups and one small group communication class as the control group. Each student in the public speaking class was expected to give five speeches. Both of the courses met a requirement for some students, but some students had elected to take the courses. Students were asked to complete all measuring instruments on the first week of class and on the fourteenth week of class. One important conclusion was that speech anxiety was significantly more reduced for those students who had completed public speaking courses than for those who had only the small group communication course. Biggers further postulated that as a result of learning public speaking skills, students' state anxiety levels “. . . would be accompanied by increased feelings of pleasure and dominance and decreased feelings of arousal when confronted with a potential oral communication situation” (p. 9). Biggers' predictions were only partially confirmed. The students' arousal was significantly lowered—their extreme nervousness about speaking was minimized and their dominance was heightened—they were more assertive in their speaking, however, the students' pleasure in speaking was not increased.

As opposed to the reports by Allen, Hunter, and Donohue (1989), Hayes and Marshall (1984) demonstrated the effectiveness of the SK technique in one of their studies (see Appendix Table A2). Hayes and Marshall claimed that SK training was so powerful that no other treatments were

necessary or could compete with their effectiveness. It might be interesting to learn whether their conclusions remain true for students of diverse ages and backgrounds.

Combination Treatments

Other studies have sought to use each of the above treatments (SD, CR, SK, VIS) in various combinations (Marshall, Parker, & Hayes, 1982; Connell & Borden, 1987; Jaremko, Hadfield, & Walker, 1980, see Appendix Table A5). Marshall, Parker, and Hayes (1982) wanted to determine if SD + SK was superior to either SD or SK alone. Twenty-four highly nervous speaking students volunteered to participate in an anxiety reduction program. As predicted, their study revealed three behavioral findings for the treatment groups: (a) a significant reduction in anxiety for direct manifestations of behaviors like trembling, blushing, etc.; (b) a significant reduction in anxiety for habitual coping responses like avoiding eye contact; and (c) a significant reduction in anxiety for appropriate speaking behaviors like controlled voice characteristics. Perhaps the most glaring and unexplained portion of the study is the reduced stress students experienced during their speeches in the three treatment groups and the control group. Just why the control group produced the same effect as the treatment group is not addressed.

Connell and Borden's (1987) study, using 72 students from four oral communication courses, showed that the treatment group receiving CR + SD for six weeks experienced significant reduction in overall communication apprehension and in all the dimensions of CA: group, meeting, dyad, and public speaking. However, there was no difference between the treatment group and the control in overall communication apprehension and in two of the four dimensions of CA—group and public speaking. This confirms Hayes and Marshall's (1984) and Biggers' (1988) claim that skills training can be just as effective as other treatments.

Jaremko, Hadfield, and Walker (1980) conducted a one-hour session on two different occasions with 31 volunteers who reported a fear of speaking. These sessions were conducted in groups of three to five members. The researchers wanted to determine if the combination treatment of SD + CR was more effective than either SD or CR alone. Although not expected, the CR treatment group was the only group that improved significantly in reducing state anxiety prior to delivering a speech. However, both the CR and the SD + CR groups improved their certainty about performing various aspects of public speaking at the end of the course (i.e. making a speech). All groups, including the control group who did not receive treatment, improved significantly on appropriate behaviors during speaking. Perhaps the reduction in anxiety had more to do with completion of an introductory speech course than with any treatments. Again this shows strong support for the effectiveness of traditional speech courses that provide skills training solely.

Russell (1992) wanted to determine the effectiveness of visualization plus music (VISM) over (a) visualization (VIS), (b) music (M) or (c) cognitive restructuring (CR) alone. Each treatment was conducted for 30 minutes. Using only high apprehensive students, Russell reported several findings. All the treatment groups showed a significant reduction in trait anxiety with the VISM group making the largest reduction in state anxiety. Although Russell's findings concluded that VIS as well as VISM were effective treatments for helping students to reduce their speaking anxiety levels, VISM provided the strongest support. However, Russell maintained that this study must be viewed with caution because all the groups, including the control group, showed a significant reduction in state anxiety.

As a result of numerous studies, SD, CR, VIS, and SK are some of the most common interventions, and might readily claim to be the most effective methods, thus far, used to treat public speaking anxieties.

Allen, Hunter, and Donohue (1989) confirmed the effectiveness of three techniques. They conducted a meta-analysis of 97 research studies and discovered that SD, CR, and SK, and certain combinations of these were the most effective in reducing CA. Of all the treatments, either alone or in combinations, the CR + SK+ SD combination is the most outstanding. Allen, et al. warned the readers that this conclusion was based possibly on an inadequate number of studies and subjects in the samples. CR + SK+ SD, a seemingly superior technique, was only used in two studies with a combined total of 20 subjects, while other studies (using treatments independently or in different combinations) were conducted with as many as 1000 subjects. Therefore, any generalizations made about the CR + SK+ SD technique must be stated with qualifying statements, so as not to mislead other researchers. Indeed, studies that deal with different combinations of reduction treatments for speaking anxiety must continue to be investigated to ascertain the best approach for certain populations.

Although SD, CR, and SK treatments independently and in tandem have provided some reduction in CA, notwithstanding that skills training contributed the least (Allen, Hunter, & Donohue, 1989), various other combinations of them have proven to be just as effective (Russell, 1992). Thus, other combinations might prove equally impressive.

Community Colleges and Communication Apprehension

With most of the CA literature focusing on four-year and university students, information concerning community college students is speculative, at best. When inferences or assumptions are made about community colleges and their similarities to four-year institutions, the information can be in error. Based on the information concerning community colleges, researchers should not comfortably claim that research concerning four-year students equally applies to community college students. Some information on CA, albeit scant, maintains that there is a marked difference between the two populations.

One researcher concluded that two-year college students are less likely to complete their degrees than their four-year counterparts (Dougherty, 1992). Hazzard (1993) suggests that some disruptive features that prevent the older students in community colleges from obtaining degrees are: feeling embarrassed by classmates and professors, having to endure inadequate class scheduling by the administration, meeting financial and family obligations, and working full-time. Hazzard also suggests that low self-esteem and lack of confidence, and prior poor academic records can augment the barriers. However, when Bohr, Pascarella, Nora, Zusman, Jacobs, Desler, and Bulakowski (1994) studied the differences between academic achievement in community colleges and four-year institutions, they noticed that when test scores, age, academic credit hours taken, and work obligations were accounted for, there was no significant difference between two-year and four-year students during their first year in college. However, the study by Bohr et al. failed to acknowledge the high attrition rate for community college students. Speculations about community college dropouts abound. One possible explanation might be the many competing roles that community college students perform as explicated by Gabert (1991). Perhaps time constraints are at work. It is likely that community college students may have less time for participation in studies because of other pressing obligations.

Because of potential time constraints, many community college curricula are flexible (Gabert, 1991). Programs that are geared to solving problems in a timely fashion are often more attractive for these adult learners. These programs can range from teaching second language skills to international students to retraining others for the workforce. Because community college students are older, with a large mode in the 35-45 age range, career upgrading and retraining is becoming more and more common at the two-year institutions. Moreover community colleges are becoming a more attractive alternative for adult learners to indulge in life long learning activities.

Any information obtained about community colleges can help to provide a better understanding of adult learners and how to educate them. Surely, alleviating communication anxieties in community college students can be a beneficial starting point. In light of McCroskey's (1977) conclusion that ". . . people who experience a high level of CA will be negatively impacted in terms of their economic, academic, political, and social lives" (p.85), finding appropriate interventions for CA can have a profound impact on the lives of community college students.

As of date, the information concerning community colleges and communication apprehension is scarce and mainly conceptual. Only Hayes (1977) conducted formal research addressing CA and community college students. Although Hayes' study may be considered outdated, it makes little sense to ignore his research or his suggestion that more studies need to address CA at community colleges.

One strategy is to take what is already known about CA and four-year institutions, to build on that research, and to conduct a study about CA and community college students. This will lead to an expanded knowledge base.

CHAPTER III
METHOD

The trait and state anxiety levels of community college students enrolled in four required basic speech communication courses was investigated in this study. First, sources of speaking anxiety were examined from a retrospection perspective. Second, a combination technique that combines skills training, systematic desensitization, and visualization was examined to determine its effectiveness in reducing speech anxiety. This chapter includes a description of the subjects, the instrumentation, procedures, and data analysis that was used to examine descriptive statistics, all mean differences for pre-tests and post-tests, and the impact of retrospective variables.

Subjects

The subjects for this study were four sections of introductory speech communication classes (approximately 25 students each) at Northern Virginia Community College, Alexandria, Virginia. One speech course is required for a degree at NVCC, and the introductory course is usually that one. The population from which these students come is diverse, reflecting the varied ethnic groups found in the City of Alexandria and surrounding communities. The demographics of the Alexandria campus reveal 48.5% white, 22.2% black, 13.5% Asian, 11.2% Hispanic, 4% other and .6% Native American (Office of Institutional Research, Fall 1995).

Instrumentation

A number of assessment instruments used to measure speaking anxiety were investigated: (a) The IPAT Anxiety Questionnaire by Cattell (1957), (b) the State and Trait Inventory (STAI) by Spielberger, Gorsuch, & Lushene (1970), (c) the Personal Report of Communication Apprehension -24 or the PRCA-24 (McCroskey, 1982), and (d) the Speaker Anxiety Scale or SA (Clevenger & Halvorson, 1992).The two most recently developed instruments were chosen. The PRCA-24 was used to assess the student's trait anxiety. The SA Scale was used to measure the student's state anxiety.

Personal Report of Communication Apprehension-24 (PRCA-24)

The PRCA-24 was selected because of its well established reliability, validity, and universal use (Levine & McCroskey, 1990; McCroskey, Beatty, Kearney, & Plax, 1985). It is the only instrument that specifically measures CA. McCroskey, Beatty, Kearney, and Plax (1985) said the PRCA-24 has " . . . evolved as the dominant instrument employed by both researchers and practitioners for measuring trait-like communication apprehension" (p. 165). Although several versions of the PRCA exist (PRCA-20, McCroskey, 1970; PRCA-10, McCroskey, 1978; PRCA-25, McCroskey, 1978), the most current PRCA instrument is the PRCA-24 (McCroskey (1982a). McCroskey (1982a) says "Criticisms of the twenty-and twenty five-item PRCA instruments have been directed toward a heavy emphasis on items relating to public speaking in those instruments" (p. 167). With the new PRCA-24, McCroskey explains that this problem has been overcome and it is the most preferred.

PRCA-24 is a self-report paper and pencil instrument used to measure communication apprehension (an individual's level of fear or anxiety with one or more other persons) in students above the tenth grade. The administration time is approximately 15 minutes (McCroskey, 1982a). Consisting of 24 items on a 5-point liker scale, the choices for answers range from strongly agree to strongly disagree. The scoring of the PRCA requires some simple math computations and completion of an easy formula. This 24-item instrument assesses individuals' level of fear or anxiety across a variety of contexts including group discussions, meetings, interpersonal conversations, and public speaking. It also provides an overall score. Using a data sample of over 25,000 college and university students, McCroskey, Beatty, and Kearney (1985) found the mean and standard deviation for the PRCA-24, 65.60 and 15.30, respectively. (see Appendix D for

scoring the PRCA-24)

Reliability. The alpha reliability for the instrument was approximately .97. Similar studies have confirmed these findings (Bourhis, Allen, & Wells, 1993; Booth-Butterfield, & Booth-Butterfield, 1993).

Validity. The original PRCA (McCroskey, 1970) has strong predictive validity for individuals past the tenth grade and for adults. McCroskey (1978) used five theoretical propositions to support the validity of the PRCA. They are listed below.

The first proposition states, “People vary in the degree to which they are apprehensive about oral communication with other people” (p. 183). McCroskey noted that CA varies from high (HCA) to low (LCA) and that the subjects' scores formed a normal distribution. Research studies indicated that a normal distribution was found in college students (McCroskey, 1970), senior citizens (Moore, 1972), public school teachers (McCroskey, 1970), and government employees (Falcione, McCroskey, & Daly, 1977).

The second proposition is “People with high oral communication apprehension seek to avoid oral communication” (p. 194). McCroskey (1978) noted that people who do not enjoy communicating will try to avoid it. For example, in terms of classroom seating most HCAs will sit in the back or on the sides of the room (avoiding the center and front of the classroom), according to Weiner, (1973). Most HCAs prefer large lecture halls, probably because of limited opportunities for communication (McCroskey & Anderson (1976) and many of them refuse to ask for help from their teachers, thus, the high apprehensives limit the potential for positive reinforcement in the classroom (Scott, Yates & Wheeless, 1975). In their work environments, HCAs desired jobs that required little communication, sometimes causing them to be overlooked for promotions and supervisory positions (Daly & McCroskey, 1975).

McCroskey's (1978) third propositions says “People with high oral communication apprehension engage in less oral communication than do less orally apprehensive people” (p. 196). In other words, even when faced with mandatory communication situations HCAs will communicate less than MCAs and LCAs (Hamilton, 1972).

Proposition four claims “When people with high oral communication apprehension do communicate, their oral communication behaviors differ from those of people who are less apprehensive” (McCroskey, 1978, p. 197). At least one study suggested that HCAs give irrelevant responses when communicating (Wells & Lashbrook, 1970).

The last proposition states “As a result of their oral communication behavior, high oral communication apprehensives are perceived less positively by others than are less apprehensive people” (McCroskey, 1978, p. 197). HCAs had less credibility (Quiggings, 1972), less leadership qualities (Wenzlaff, 1971), and less academic success (Daly, 1986).

McCroskey (1978) demonstrated that all five theoretical concepts have consistently supported the PRCA validity. Certainly, the PRCA shows predictive value.

Besides the predictive validity of the PRCA, researchers also examined the concurrent validity. For the concurrent validity, a moderate correlation existed between PRCA and introversion (Bledsoe, 1990) and between PRCA and self-esteem and self-acceptance (Phillips, 1968). In addition, Lustig (1974) discovered a higher correlation between PRCA and verbal reticence. McCroskey, Daly, and Sorensen (1976) discovered similar results with general personality. The content validity of the

items on the PRCA-24 was supported by at least one study. McCroskey, Beatty, Kearney, and Plax (1985) concluded that the PRCA-24 was able to predict 27% to 37% of the variance in an assertive scale.

McCroskey and other researchers have concluded that the PRCA is a reliable and valid measure of communication apprehension. It is considered to be an excellent instrument that is easy to understand and to administer. Though McCroskey (1978) cautions that care must be taken to avoid individuals from falsifying their responses. He asserts that some individuals will falsify responses if they perceive communication apprehension as being something bad. Conversely, others may misrepresent themselves if they believe some benefit or reward could occur as a result of having a reticence problem.

Speaker Anxiety Scale (SA)

Clevenger and Halvorson's (1992) Speaker Anxiety Scale (SA) was used as the state anxiety measure because it was designed to assess situational anxiety such as public speaking. Originally, Clevenger and Bledsoe (1990) working from the PRCA, developed the PRCA-State Version 2; they later renamed it the Speaker Anxiety Scale (Clevenger and Bledsoe, 1990). Based on data drawn from 1700 students, the SA Scale is a factorially derived instrument, consisting of 32 items. It measures nine factors: (a) prespeech tension, (b) shyness, (c) confusion, (d) physiological activation, (e) postspeech activation, (f) environmental threat, (g) positive anticipation, (h) poise, and (i) wants more. It also includes an overall score. Similar to the PRCA-24, the SA is a self-report measure. Unlike the PRCA-24 instrument, the SA Scale includes factors that might apply to positive anxiety ("positive anticipation" and "wants more").

The SA instrument was selected because of its high reliability and strong face validity. It is the most current instrument developed to measure state anxiety in communication. (see Appendix D for scoring the SA Scale)

Reliability. Clevenger (1991) reported that the reliability for an earlier version of the SA Scale (PRCA-State Version 2) was .93 for the overall instrument with a range of .80 to .87 for the subscale scores. A recent study by Halvorson (1993) indicated the reliability for the SA Scale was .92 using Cronbach's Alpha .

Validity. Halvorson (1993) stated "A correlation between the PRCA-24 and the SA Scale yielded a score of .600 which represents a positive correlation of moderate magnitude between the two instruments. . . . In other words, in this study some people who scored high on the PRCA-24 for Overall Trait-Anxiety also scored high on the Overall State-Anxiety score on the SA Scale" (p. 51). When Halvorson compared the SA Scale to the State-Trait Anxiety Inventory (STAI) developed by Spielberger, Gorsuch and Lushene (1970), she discovered the correlation was .683. The results of Halvorson's (1993) study along with Clevenger, Halvorson, and Bledsoe (1991) study show strong predictive validity for the SA Scale.

Retrospective Scale

Developed by Daly and Friedrich (1981), Retrospective Measures produces two subscores: parent-home and school. The parent-home subscale, consisting of 13 items, measures information concerning the student's recollection of the parents' communication patterns in the home. The school subscale, consisting of nine items, represents the student's recollection of high school and grade school communication patterns. Both parent-home and school scales range from strongly agree to strongly disagree on a likert scale.

Reliability. Bourhis, Allen, and Wells (1993) yielded an alpha coefficient of .81 for the parent-home scale and .81 for the school scale that included grade school, high school, and college (Their work is a revision and development of research done by Daly and Friedrich in 1981.)

Validity. The Retrospective measure concerning the home variable has good predictive validity. The study by Bourhis, Allen and Wells' (1993) reported that subjects' perception of the communication in the home is correlated to their communication apprehension level.

Design

The design of this study was a 2 x 2 factorial design with time (speaking first week, speaking second week) and treatment (not using the combination technique, using the combination technique) being independent variables. Time was selected because there may be a difference in students' anxiety levels based on which week they speak. For instance, students speaking during the second week might show a reduction of their anxiety levels just by having watched the first students, thus the students who speak in the second week might have an advantage by learning from the examples seen the previous week. On the other hand, students speaking in the second week might demonstrate an increase in anxiety by having watched the speeches of the first students.

By using a factorial design, the existence of an interaction between time and treatment can be detected. The Personal Report of Communication Apprehension -24 and the Speaker Anxiety Scale are employed as dependent measures. The PRCA-24 was administered to measure the level of trait anxiety of the students. The SA Scale was given to measure the level of state anxiety experienced by the students immediately after giving the speeches.

Procedures

In the fall of 1996, four required introductory speech classes were selected for this study, two sections taught by one instructor and two sections taught by another instructor. These instructors are well trained in speech education and possess many years of experience; one instructor has six years of community college teaching and the other instructor has 17 years of experience. One of the two classes for each instructor was randomly assigned (flip of a coin) to the treatment group and the other class served as the control group.

On the second class meeting each student was asked to fill out 3 forms: Demographics, Retrospective Scale, and the PRCA-24 (see Appendix C). Rather than using the first class meeting for data collection, the second class was selected because it is usually more representative of the final class enrollment. During the third week, the PRCA-24 data for each class were analyzed, and students were identified as belonging to one of three groups: High Communication (HCA), Moderate Communication (MCA), and Low Communication Apprehension (LCA).

Near the end of the semester, all students performed an informative speech. Half of a class spoke one week, the other half spoke the succeeding week. All students within each class were assigned to matched groups based on a rank ordering of their PRCA-24 scores (HCA = 80.9 and above, LCA = 50.3 and below, MCA = between 80.9 and 50.3). For instance, HCA, MCA, LCA students with the highest scores were selected for the first week of speeches. The second highest scorers were assigned to the second week of speeches, the third highest scorers were assigned to the first week of speeches and so on. Assignments continued to alternate between weeks until all students were placed. This was done for all four sections.This procedure was selected so that the number of HCA, MCA, and LCA students were evenly matched on both speaking days and to minimize uncontrolable variables.

Both the control and treatment groups received skills training for the first 13 weeks of the semester (see the schematic chart). The skills training technique (SK) was divided into three parts: interpersonal communication—covering perception, listening, and non-verbal; small group communication—involving group participation, leadership skills, and conflict resolution; and public speaking—including topic selection, organization, delivery, and informative speaking. On-going informal speaking activities were a major part of the course.

When the first speech day occurred, the speakers in the two treatment classes received a 15 minute combination treatment for reducing speaking anxiety prior to delivering their formal speeches. The same thing occurred for the assigned speakers in the succeeding week. As for the control groups, they experienced only skills training but were equally matched for HCA, MCA, and LCA on the two different dates their speeches were delivered.

The treated students gave their speeches to the entire class as the others listened and evaluated their performances. The treatment was executed again for speakers assigned to the succeeding week. Immediately after presenting their speeches, speakers filled out a state anxiety form (SA) and responded to a statement concerning their rehearsal time (see Appendix C). At the end of a 16-week semester, both groups completed the PRCA-24 (post-test).

Weeks	Control	Treatment
2nd week	Demographics Retrospective PRCA-24 (pre-test)	Demographics Retrospective PRCA-24 (pre-test)
3rd week researcher analyze PRCA pre-test scores	Researcher designates all students as HCA, MCA, or LCA based on PRCA-24 scores.	Researcher designates all students as HCA, MCA, or LCA based on PRCA-24 scores.
14th week	1/2 class matched CAs gives speeches Fill out SA immediately after speech and respond to a question concerning their rehearsal time	Receives 15 minute treatment 1/2 class matched CAs gives speeches Fill out SA immediately after speech and respond to a question concerning their rehearsal time
15th week	1/2 class matched CAs gives speeches Fill out SA immediately after speech and respond to a question concerning their rehearsal time	Receives 15 minute treatment 1/2 class matched CAs gives speeches Fill out SA immediately after speech and respond to a question concerning their rehearsal time
16th week	PRCA-24 (post-test)	PRCA-24 (post-test)

Figure 1. Procedure for Treatment and Control Groups

Treatment

The combination technique consisted of controlled activities. The first five minutes was for step aerobics; the next five minutes was for deep breathing, relaxation, and listening to a list of anxiety-producing items. The last five minutes, the students used a visualization technique (VIS) as they listen to soft instrumental music. This last segment used Ayres and Hopf's (1989) visualization method that involves seeing oneself succeed in speech making.

Data Analysis

Descriptive statistics, correlation, chi-square analysis, two-way analysis of variance, two-way analysis of covariance, and multiple regression were used to analyze the data.

Descriptive statistic. Means, standard deviations, and frequency distributions were used to describe the demographics for all variables.

Correlation. A correlation were used to describe the relationship between the results of the PRCA-24 pre-test with retrospection.

Chi-square analysis. These analyses were used to determine if treatment conditions, classes, or day-night student status was related to level of communication apprehension.

Two-way Analysis of variance. A Two-way Analysis of Variance was used to test for all mean differences of ethnic groups.

Two-way Analysis of Covariance. A Two-way Analysis of Covariance was used to test for all treatment condition, speaking time, and interaction of means.

Multiple regression. Multiple regression analysis was employed to determine contributors of communication apprehension.

Chapter Summary

This chapter included a description of the subjects for the study, the instrumentation, the procedures for the study, the data analyses, and the research questions.

CHAPTER IV
RESULTS

In this chapter are reported the statistical data gathered by using the methods described in the previous chapter in order to test the effectiveness of a treatment for the trait of communication apprehension (CA). First, a brief description of the sample size and the subjects who comprised the sample is presented. The next section displays tables and results from specific analyses that addressed various aspects of the research question, "How effective are CA treatments with community college students?"

At the start, the instruments were completed by 100 students in four required speech course sections at Northern Virginia Community College (NVCC), Alexandria Campus. These students were asked to complete the Demographics Form and the Personal Report of Communication Apprehension-24 (PRCA-24) during the second week of class. The Speaker Anxiety Scale (SA) and PRCA-24 were completed on the last day of class. Of the 100 students who initially completed the instruments, some provided incomplete data on the instruments administered on the last day of class and some students dropped the course during the semester. Those were deleted, resulting in a sample of complete data from 81 students (40 in the control group and 41 in the treatment group). Participation in the investigation was voluntary and students did not receive extra credit or payment for their participation.

Description of the Sample

Table 1 shows the results for all demographic data. Fifty-nine percent or 48 students were female and 41% or 33 students were male. The subjects ranged in age from 17 to 82 with a mean age of 28. Linguistic skills also varied. The mean for number of languages spoken was 1.75 and one student spoke eight languages. Other demographics were of interest. Forty-four percent of the students indicated that their educational objectives were exploring career possibilities and self-improvement, and only 30% of the students reported that transferring to another college was a priority. Most students claimed that they had never dropped out of school (79%), others reported that they had dropped out of school 1 time (15%), 2 times (5%), and 3 or more times (1%). Single students comprised approximately three-quarters of the sample (74%) and 15% of the students reported that they are the parent of one or more children who live with them and 5% financially support one or more of their children who do not live with them. Many of these students have never attended any college other than NVCC (70%), some attended one other college (16%), and others attended two or more other colleges (14%).

Many of these students work either full-time jobs (37%) or part-time jobs (36%). The remaining students work both full-time and part-time jobs (11%) and 15% reported "other". This sample represents more full-time students (56%) than part-time ones (44%); the opposite is true with the entire population at Northern Virginia Community College (NVCC). That is, more than one-half of this college's population attends only part-time.

Table 1
Description of the Sample

		N	%
Sex			
	Female	48	59.26
	Male	33	40.74
Race			
	White	33	40.74
	Hispanic	4	4.94
	Black	20	24.69
	Asian	24	20.63
Educational Objective			
	Explore Career Possibilities	18	22.22
	Self Improvement	18	22.22
	Transferring	24	29.63
Dropout			
	Never	64	79.01
	One Time	12	14.81
	Two Times	4	4.94
	Three or More Times	1	1.23
Martial Status			
	Single	60	74.01
Parent Of			
	Children Who Live With	12	14.81
Financially Support			
	Children	4	4.94
Attend Other Schools			
	None	57	70.37
	One or More	24	29.63
Work Status			
	One Full-time Job	30	37.04
	One Part-time Job	29	35.80
	Full-time and Part-time Jobs	9	11.11
	Other	12	14.81
Student Status			
	Full-time	45	55.56
	Part-time	36	44.44

	Mean	SD
Age	28.02	11.06
Number of Languages Spoken	1.75	1.10

Trait Anxiety

Trait anxiety is defined as an enduring characteristic which is unlikely to change easily or in short periods of time. That is, the trait anxiety of a highly anxious individual is evident at an early age and is discernible in a large variety of settings throughout a life time, unless someone purposely attempts to alter this nervous attribute.

No direct attempt was made to change the traits of the students, but the trait data were used as monitors for the state data. That is, no changes in the trait scores of treatment and control groups at the end of the semester would be expected. So if trait anxiety did remain relatively stable, then differences in the state data should be attributable to the treatment.

Compared to National Norms

The instrument used to classify students' anxiety level was the Personal Report of Communication Apprehension-24 (PRCA-24). The statistical norms for the PRCA-24 were developed with data gathered from four-year college students. The national norm for the overall PRCA-24 score is 65.60 with a standard deviation of 15.30 (McCroskey, Beatty, & Kearney, 1985). The PRCA-24 mean in this study was 68.63 and the standard deviation is 20.77. Table 2 shows the overall means and standard deviations for four-year college students in the national study and for community college students in the current study. The overall figures are further explained as the total of the subscores of anxiety in group, meeting, dyad, and public categories.

Table 2
PRCA-24 Scores: National and Community College Sample

	Norm Mean*	NVCC Mean	Norm SD*	NVCC SD	NVCC Median
Overall	65.60	68.63	15.30	20.77	70
Subscores					
Group	15.40	15.75	4.80	5.92	16
Meeting	16.40	17.32	4.80	6.25	17
Dyad	14.50	15.36	4.20	5.81	16
Public	19.30	20.20	5.10	6.20	21

* Norm mean and standard deviation are based on national values for four-year college students.

Although all the means for the community college students were slightly higher than the four-year norms, the differences were minor. However, the variability was consistently larger, which may reflect the diverse nature of community college students. The data were not dramatically different from McCroskey's norms, and their distributions are shown in Figures 2-6, which present Overall PRCA-24 scores and subscores. Both the mean and the negative skewness of the public speaking subscores show that this was the area producing the greatest trait anxiety. This too, appears consistent with the national norms.

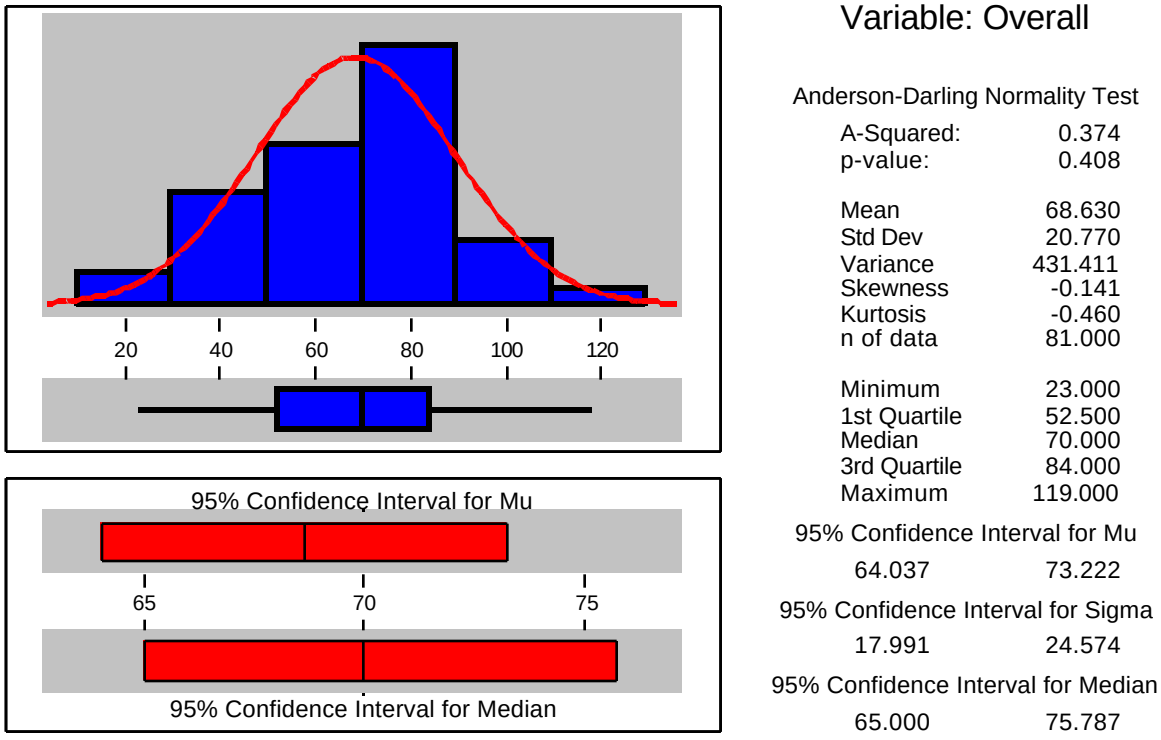
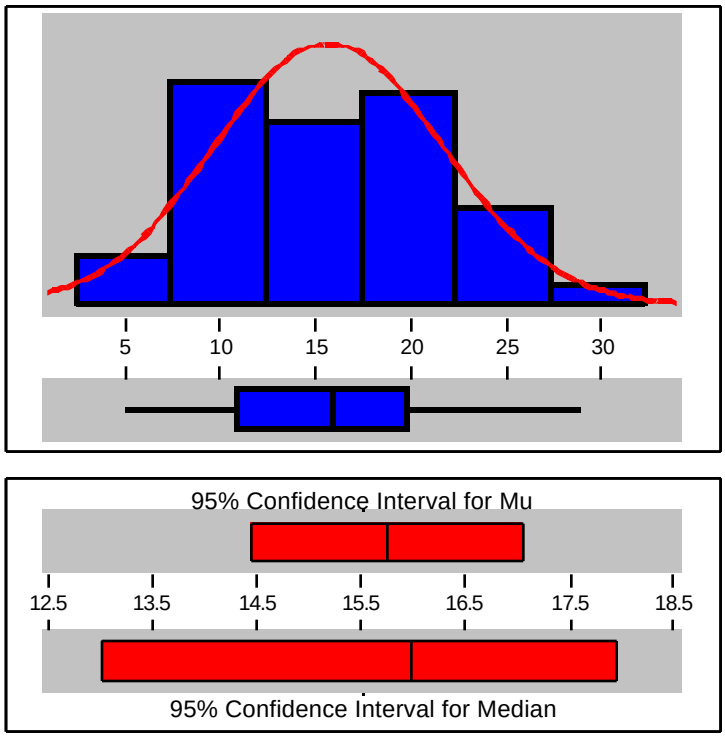


Figure 2. Trait Anxiety: Overall PRCA-24

Descriptive Statistics for: Variability in PRCA-24 Group



Variable: Group

Anderson-Darling Normality Test

A-Squared:	0.5749
p-value:	0.1312
Mean	15.7531
Std Dev	5.9235
Variance	35.0883
Skewness	0.2179
Kurtosis	-0.7964
n of data	81.0000
Minimum	5.0000
1st Quartile	11.0000
Median	16.0000
3rd Quartile	20.0000
Maximum	29.0000

95% Confidence Interval for Mu

14.4433	17.0629

95% Confidence Interval for Sigma

5.1309	7.0082

95% Confidence Interval for Median

13.0000	18.0000

Figure 3. Trait Anxiety Subscore: Group Situations

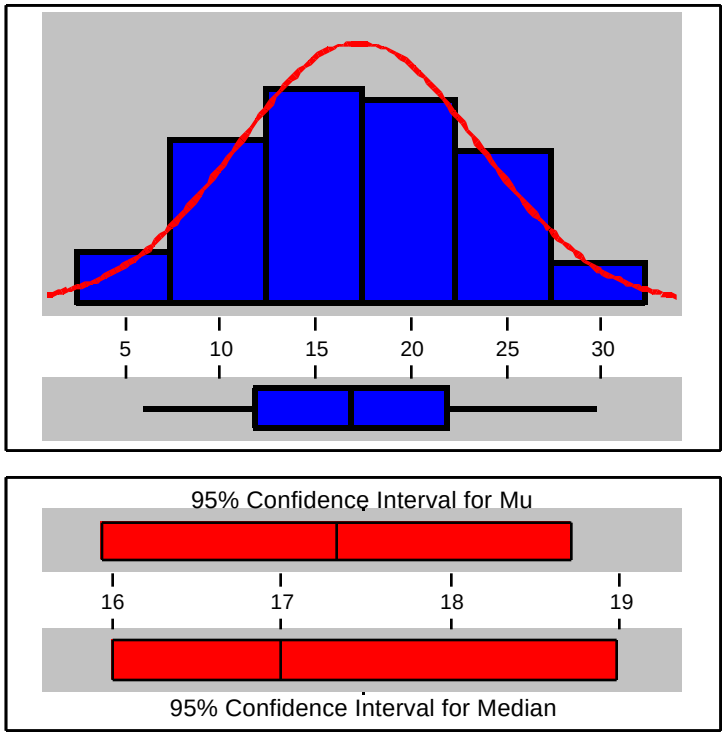


Figure 4. Trait Anxiety Subscore: Meetings

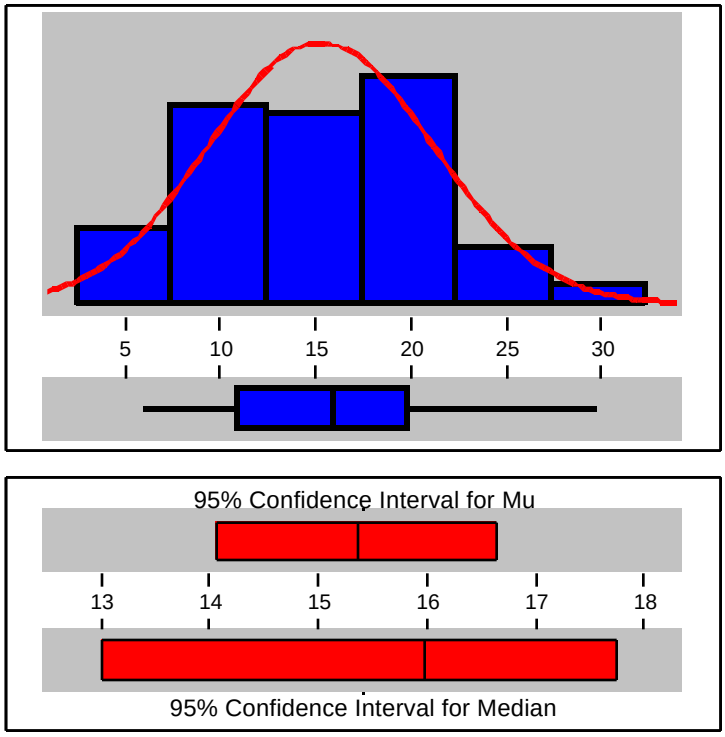
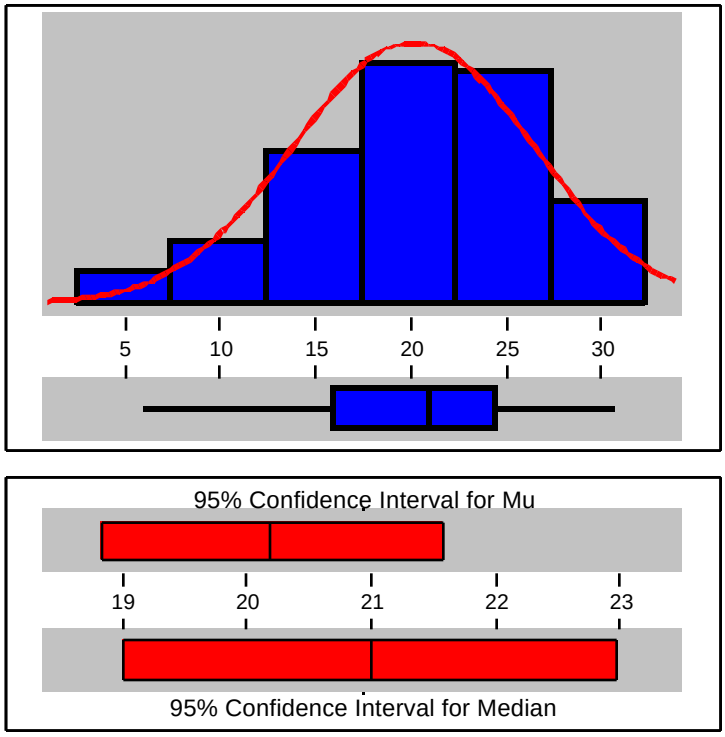


Figure 5. Trait Anxiety Subscore: Dyad Interactions

Descriptive Statistics for: Variability in PRCA-24 Public



Variable: Public

Anderson-Darling Normality Test

A-Squared:	0.5744
p-value:	0.1316
Mean	20.1975
Std Dev	6.1996
Variance	38.4355
Skewness	-0.4297
Kurtosis	-0.4777
n of data	81.0000
Minimum	6.0000
1st Quartile	16.0000
Median	21.0000
3rd Quartile	24.5000
Maximum	31.0000

95% Confidence Interval for Mu

18.8267	21.5684

95% Confidence Interval for Sigma

5.3700	7.3348

95% Confidence Interval for Median

19.0000	23.0000

Figure 6. Trait Anxiety Subscore: Public Speaking

Before the Course
Classes were randomly assigned to treatment conditions. Each class was one group. A pre course comparison using a t-test revealed no significant difference between students in the treatment groups and those in the control groups on overall trait anxiety. Thus, the treatment and control groups were relatively similar on their premeasure scores. Table 3 shows these results. Additionally, no differences were found between males and females on their trait anxiety scores. This result confirms the study by McCroskey, Simpson, and Richmond (1982) on biological sex and CA; no studies since that time have shown a significant difference in CA due to gender.

Table 3
T-Test for Treatment Condition

	N	Mean	StDev	SE Mean
Treatment	41	72.8	22.3	3.5
Control	40	64.3	18.4	2.9

Note. 95% C.I. for difference in means: (-0.5, 17.5)
t= 1.88 p=0.065 df= 76

Based on McCroskey's testing of over 25,000 four-year college students, the following classifications for the trait of high, moderate, and low CAs were established. Students with scores more than 80.90 were classified as high and students with scores 50.3 and below were classified as low. The remaining students between 80.9 and 50.3 were classified as moderate CAs.

In this study, the initial scores for student apprehension traits prior to treatment were distributed as follows. Twenty-six (32.10%) of the students were classified as high CAs. Moderate CAs and low CAs numbered 36 (44.44%) and 19 (23.46%) respectively. Three chi-square analyses were used to determine if CA level was related to treatment conditions, class section, or day-night student status. Table 4 shows the distribution of CA levels across treatment conditions.

Although there were no significant differences between the treatment and control groups, the pattern in anxiety does seem slightly higher for the treatment group. Although about three-quarters of both groups were in either the high or moderate anxiety category, 42% of the treatment group were high while 53% of the control group were moderate. No significant relationships were found among the four different classes and their CA levels, or the day-night students and their CA levels (See Appendix E1-E2). Approximately the same distribution of CA scores were found in each of the four classes, and the day and night classes.

Page's study (1991) reported that 10% of the four-year college population experiences HCA. This current study differs. This sampling of community college students shows 32% of the students experienced high communication apprehension. The greater number of students with HCA (an issue of quantity) may be a different issue than a greater level of anxiety for community college students (or higher CA scores, an issue of extent).

Table 4
Chi-Square Test for Comparison of Treatment Condition and CA Level

	HCA	MCA	LCA	ALL
Treatment Group				
N	17	15	9	41
Row %	41.46	36.59	21.95	
Control Group				
N	9	21	10	40
Row %	22.50	52.50	25.00	
Totals				
N	26	36	19	81
Row %	32.10	44.44	23.46	

Note. CHI-SQUARE = 3.502 WITH D.F = 2 p = 0.17
The columns reflect HCA (high communication apprehension), MCA (moderate communication apprehension), and LCA (low communication apprehension).

After the Course

Because trait anxiety is a stable characteristic, no differences in the scores of treatment and control groups at the end of the semester would be expected. To check this assumption and the potential impact of observing speech presentations, two-way ANCOVAs (treatment condition by time of presentation) were applied to the post-test (post course) data of trait anxiety (overall score and subscores), with the corresponding pre-overall trait anxiety scores as the covariates in each case. The treatment and control groups and the students who spoke the first week and those who spoke the second had similar trait anxiety scores. The data produced no significant main effects (F= .15, p= .7 for treatment; F= .23, p= .63 for speaking time) and no significant interaction effects (F= .03, p= .87 for interaction) on overall trait anxiety (see Appendix E3).

Table 5 contains the mean scores on the PRCA-24 overall and subscores for the treatment and control group and for those students speaking the first week and those speaking during the second week.

The subscore data for group, meeting, dyad, and public appear in Appendices E4-7. These tests indicate that there were no significant differences between the treatment conditions (treatment group and control group), no significant differences between speaking times (whether the students spoke during the first week or second week), and no significant interaction on any of the trait anxiety subscores.

Table 5
Post Course Trait Anxiety Scores by Treatment and Order of Presentation

	Group		Order of Presentation	
	Treatment	Control	First Week	Second Week
Overall	59.9	60.9	61.7	60.1
PRCA-24				
Group	12.9	14.6	13.8	13.7
Meeting	15.1	14.8	15.4	14.5
Dyad	14.2	14	14.2	14
Public	18	17.2	17.6	17.6

Course Impact on Trait Anxiety
As should be the case, neither treatment nor order of presentation produced any differences in trait anxiety. To determine if the course itself had any influence, pre- and post-comparisons were made for the combined 81 students. As seen in Table 6, pre-subscores correlated moderately with post-subscores.

Table 6
Correlations Between Pre Trait Anxiety Scores and Post Trait Anxiety Scores

	Pre-Scores:				
	Group	Meeting	Dyad	Public	Overall
Post-Scores:					
P-Group	**0.576**	0.427	0.493	0.312	0.524
P-Meeting	0.548	**0.621**	0.429	0.525	0.620
P-Dyad	0.646	0.602	**0.697**	0.485	0.705
P-Public	0.397	0.459	0.327	**0.497**	0.491
P-Overall	0.679	0.661	0.602	0.573	**0.732**

Public speaking had the weakest relationship between pre and post subscores for trait anxiety (r= .50), thus suggesting an unstable relationship for these subscores from before and after the course. At this point it is important to remember that the course content during the semester was divided into three areas: interpersonal (including dyads), small groups (including meeting), and public speaking at the end of the semester. Thus the unstable scores may be a function of recency in dealing with the public speaking segment of the course.

Additionally, t-tests showed significant differences between pre and post scores on the overall and subscores: group, meeting, dyad, public, overall. All were significant well beyond the .05 level except for the dyad score (see Table 7).

Table 7
T-Tests for Pre/post Course for all Students on Overall PRCA-24 and Subscores

	Pre Mean	St Dev	Post Mean	St Dev	T	P
Overall PRCA-24	68.6	20.8	60.4	15.9	2.84	0.0052*
Group	15.75	5.92	13.83	5.41	2.16	0.032*
Meeting	17.32	6.25	14.94	5.11	2.65	0.0088*
Dyad	15.36	5.81	14.05	4.21	1.64	0.10
Public	20.20	6.20	17.57	5.40	2.88	0.0046*

Note. n= 81.
* Denotes all significant at .05 level

Table 7 shows that the course was effective in reducing the overall trait anxiety scores and three of the four subscores. Although these students decreased their anxiety levels from the beginning of the course to the end of the course, this reduction may not last beyond the speech course.

The preceding tables show that the trait scores were evenly distributed across the groups and slightly reduced by the course. Therefore any post-course differences in state scores are not due to chance and would be due to the effects of treatment.

State Anxiety

Turning to the temporary, immediate condition of anxiety felt by persons who are (in this case) presenting a public speech, data reported on the Speaker Anxiety Scales (SA) were examined. State anxiety was analyzed by two-way ANCOVAs to ascertain main and interaction effects using treatment condition and speaking time. Pre overall trait anxiety was used as a covariate in each case. Overall and nine subcores of the SA Scale were analyzed and all but one produced non-significant results. Interaction of treatment condition and speaking time was significant for the physiological activation subscore of the SA Scales[$F(4, 76) = 4.23$, $p < .05$]. Appendix E8-E17 show all these outcomes.

As shown by cell means in Table 8, all subjects had high anxiety as evidenced by physiological activation (For this scale, numbers closer to one indicate high and numbers closer to 5 indicate low anxiety). The most outstanding feature was the higher anxiety for the control group when they presented their speeches on the second week (indicated by the lowest mean of 1.15). That means that the students in the control group who spoke during the second week reported that while they were presenting speeches, their mouths were dry, their hearts were beating rapidly, their movements were uncoordinated, and their palms were sweating. Also, after their speeches they were very exhausted.

Table 8 shows that all students in the treatment group and students in the control group who delivered their speeches during the first week managed their anxieties better than the students in the control group who spoke on the second week. Interpreting these data, the treatment may have been a deciding factor that reduced state anxiety. Although the treatment in tandem for speaking anxiety was not significant, the mean score for the treatment group (1.64) was higher than the mean score for the control group (1.50), indicating that students in the treatment group may have experienced less anxiety and more confidence than those in the control group. This shows a pattern that the treatment may have been effective for some students.

Order of presentation didn't seem to affect the state anxiety for the treatment group. The difference in physiological activation was relatively minor between those speaking in the first week and the second week. However, for the control group, speaking order had a dramatic impact. Those who presented their speeches in the second week had more anxiety.

Table 8
Cell Means for Physiological Activation (Anxiety Subscale) by Speaking Times and Treatment Conditions*

	Spoke First Week	Spoke Second Week	
Treatment	1.60	1.71	1.64
Control	1.79	1.15	1.50
	1.70	1.43	

*Mean range from 1 = High anxiety to 5 = Low anxiety

State Anxiety Compared With Trait Anxiety Levels

Any differences between trait and state CA for each student were important to consider because it is useful to know if the high trait people were also the high state people. Ten one-way ANOVAs were used to compare the CA trait anxiety groups (high CA, moderate CA, and low CA) on Speaker Anxiety total score and each Sub-Scale. A follow-up procedure was used to determine which specific CA levels were different from one another. The follow-up procedure used in this investigation was Hsu's Multiple Comparisons with the Best (MCB). MCB provides a confidence interval for the difference between each level mean and the best of the other means. Table 9 shows that there was a significant difference at the .05 level between groups at different levels of trait CA on most of the SA Scales (state).

When HCAs were compared to MCAs and LCAs, highly anxious individuals (HCAs) reported less overall state anxiety than did the other two groups for overall state anxiety. Additionally, HCAs looked forward to presenting their speeches (positive anticipation), felt more relaxed while speaking (poise), felt less shyness (shyness), would have enjoyed answering more questions about their speeches (wants more) and found their environment more comfortable and less threatening than MCAs and LCAs (environmental threat). On the other hand, LCAs felt more state anxiety right before speaking (pre speech tension) and experienced more physical nervousness than MCAs and HCAs (physiological activation).

There were no significant differences among the HCAs, MCAs, LCAs on the confusion variable (confusion), another state anxiety. This means that students at all CA levels were virtually similar in being at a loss for words, confused and jumbled in thinking, and being unable to think clearly.

Additionally, no significant differences were found among the HCAs, MCAs, LCAs on post speech activation (postspeech activation), another state anxiety. That means that the HCAs, MCAs, LCAs, after their speeches, were similar on the state anxiety scales for body tenseness, short of breath, and physical nervousness.

Table 9
Means for Speaker Anxiety Scales (State) Across CA Levels (Trait)

SA Scales[a]	HCA[b]	MCA[c]	LCA[d]	F	p
Overall State Anxiety	2.6	2.1	1.8	9.03	.001*
Prespeech Tension	2.6	2.7	1.6	5.66	.005*
Positive Anticipation	2.2	3	3.1	5.89	.004*
Poise	1.6	2.3	2.4	5.75	.005*
Shyness	1.8	1.1	.9	7.64	.001*
Confusion	2.1	1.9	1.4	2.43	.095
Physiological Activation	1.9	1.6	1.1	4.08	.021*
Wants More	2.3	2.9	3.1	5.26	.007*
Postspeech Activation	2	1.6	1.4	2.09	.130
Environmental Threat	1.8	1.1	.9	5.24	.007*

[a]For each scale, 1 = strongly agree to 5 = strongly disagree
[b]n = 26, [c]n = 36, [d]n = 19.
*Denotes significant at .05 level.

The most unexpected outcome of this study is that high communication apprehensive students reported less state anxiety on the overall and many of the subscore measures than did their MCA or LCA peers. This research result has never appeared in any literature about communication apprehension.

Ethnic Backgrounds and Trait anxiety

Cultural diversity is an important issue for many community college reports and decisions. The demographic data on ethnicity are of possible value to many teachers and administrators, and so anxiety is explored first as a trait and then as a state in the following segment. Four sub-groups were formed based on the proportion of ethnic-group presence at the community college. One cell was too small for any meaningful results and this group containing four Hispanic students was dropped from the ethnic portion of this analysis. The remaining data from the four classes were placed into one of the three categories (White, Black, and Asian).

Ethnic groups were compared on each PRCA-24 overall and subscores. Dyad (interpersonal) and overall were the only two scores that reached significance, Hsu's Multiple Comparisons with the Best (MCB) was used to further analyze the differences among ethnic groups.

Asians had the highest trait anxiety scores for communicating interpersonally. As shown in Appendix E18, the overall scores for Asians were significantly higher than overall scores for Whites [$F(2, 74) = 3.99$, $p < .05$]. In addition, Asians scored higher than Whites on overall anxiety [$F(2, 74) = 7.24$, $p < .05$] (see Appendix E19). The mean scores on overall trait anxiety for Blacks are higher than those for Whites, but again not at any significant level.

Thus far, this analysis for ethnicity has concentrated on communication apprehension as a trait. The next segment of this chapter is about communication apprehension as a state.

Ethnic Backgrounds and State Anxiety

ANOVAs were performed for different ethnic groups on the various SA scales. When significant differences were found, means were compared by using Hsu's Multiple Comparisons with the Best. The MCB test showed a significant difference between ethnic groups on overall state anxiety [$F(2, 74) = 8.95$, $p < .05$]. As revealed in Appendix E20, Asians experienced less overall state anxiety than Whites and Blacks. A significant difference between ethnic groups on the pre speech tension variable was also revealed [$F(2, 74) = 3.07$, $p < .05$]. Asians reported that they felt more tension in their bodies prior to speaking than Blacks and Whites (see Appendix E21).

There was also a significant difference between ethnic groups on the shyness scale. Interestingly, Asians reported less shyness than Whites and Blacks. Whites and Blacks reported that they were more reluctant than the Asians to express themselves and look in the eyes of the audience while delivering speeches (see Appendix E22).

A significant difference was reflected between ethnic groups on the confusion variable. Whites and Blacks reported almost equal scores: 1.52 and 1.53, respectively. They reported higher scores than Asians for being at a loss for words, their thoughts being jumbled and confused, and thinking clearly while delivering their speeches (see Appendix E23).

Significance was also revealed for physiological activation [$F(2,74) = 4.72$, $p < .05$]. Whites and Blacks reported higher scores than Asians for their hearts were beating rapidly and their movements being uncoordinated during their speeches (see Appendix E24).

Another significant difference was reflected on the post speech activation scores of the Whites and Asians [$F(2, 74) = 4.30$, $p < .05$]. After their speeches, Whites reported more often than Asians that parts of their bodies trembled after they spoke (see Appendix E25).

Significant differences among ethnic groups on the environmental threat variable was reached [$F(2,74) = 8.08$, $p < .05$]. Asians felt less environmental threat than Whites and Blacks.

Specifically, Asians felt less intimidated, more comfortable, and less threatened about their surroundings than Whites and Blacks (see Appendix E26).

Even though the literature reports that Asians tend to be more anxious, the Asians in this study reported the lowest state anxiety of the three groups at the end of the semester. A potential reason for this surfaced from informal interviews with several Asian students after the course. They reported that they consider the formal speech as serious work, therefore, they were compelled to deliver their speeches as near perfect as possible. To ensure a near-perfect speech, Asian students employed several strategies. Several of them reported that they spent 15 or more hours rehearsing aloud their final speeches. Some students worked on their speeches for short periods, mastering a single idea at each session. Then they drilled and drilled again, until all the ideas were thoroughly rehearsed. Next, they taped their speeches and played them back, listening for any unclear messages and vocal qualities. This also allowed them to listen to their speeches while performing other tasks, like shaving, brushing their teeth, and eating. Another strategy involved asking their friends to critique their speeches, with special attention on accurate word pronunciation. These strategies most assuredly developed confident delivery for those Asians students.

Overall Effectiveness Based on Student Opinions

A numerical profile of students evaluations of the treatment is shown on Table 10. Over 63% of the 41 treated students felt the treatment was successful in calming their nerves during the speech.

Further specifics appear in Appendix E27 showing the qualitative data by instructor number, day/night sections, treatment/control sections, and CA categories. Additionally, their normal experiences when presenting public presentations and how they felt about the treatment they received in this study are displayed. Students in the treatment group responded to the question "How effective was the treatment?" while the control group was asked to speculate about "What could help you calm your nerves?" and their answers are also presented.

Of the 63% of the students who reported the treatment was effective in reducing their stress, most commented that the treatment made them feel relaxed and comfortable prior to delivering their speeches. However, of the 29% who reported the treatment did not alleviate their anxiety, only a few students reported the reasons for such ineffectiveness. One student reported dizziness and another student reported a "negative attitude" about any treatment.

Table 10
Frequency of Comments Concerning Treatment Effectiveness

	Positive	Negative	Undecided	No Responses
N	26	12	1	2
Percent	63.4	29.3	2.4	4.9

Retrospection on Trait Anxiety

High anxiety has been established as a personality trait for some individuals. The retrospection segment of the pre course measures aimed at documenting whether parent-home or school were significant factors in influencing the development of trait communication apprehension.

Certain questions that might be answered through retrospection were considered. Specifically, did community college students with low communication apprehension report significantly more positive parental behaviors and attitudes toward communication than high communication apprehensives? And did community college students with low communication apprehension report significantly more positive school and teacher responses toward communication than high communication apprehensives? A self-report measurement by Daly and Friedrich (1981) was slightly adapted for use with community college students.

Daly and Friedrich's instrument was modified for this study to separate the parent figures that were merged in the original instrument. The parent-home measure was subdivided into mom-home and dad-home. The four dimensions of mom-home are mom reward, mom general, mom negative, and mom competition, with similar subsets for the dad (see Table 11 for description of dimensions). Daly and Friedrich's instrument also assessed the student's feelings about their experiences in grade school and high school as they related to communication; this part of the instrument was not modified (see Table 11 for description of dimensions). First, the means for retrospection were examined across CA levels and then multiple regression was used to take into account the interrelationship among the variables.

Table 11
Descriptions Concerning Variables used in Retrospection Measures

Labels	Interpretation of Low Scores (on a 1 - 5 scale)
Mom/Dad Reward	Positive and supportive atmosphere created by mom/dad for child's communication
Mom/Dad General	Perception that mom/dad did not like child
Mom/Dad Negative	Negative communication environment created by mom/dad
Mom/Dad Competitive	Mom/dad was very competitive
High School	Perceptions concerning communication in high school
Grade School	Perceptions concerning communication in grade school
Mistakes	Corrections for communicating in high school and grade school

Table 12 reports that three of the four variables for mom were significant, but only one variable for dad was significant. Mom was definitely the stronger influence in developing communicators in the LCA group. The HCAs reported less mother's encouragement and less rewards for communicating than did the MCAs and LCAs. For the mom general factor, LCAs reported that their mothers

strongly liked them as a child and paid "good" attention to them. MCAs and HCAs reported less liking from mothers than did LCAs (mom general). LCAs also reported that their mothers and fathers talked to them and to each other more than did the parents of MCAs and LCAs (mom negative and dad negative). No differences were found between school experiences and CA levels.

Table 12
Means for Retrospection Compared Across CA Levels

	HCA	MCA	LCA	F	p
Mom Reward	3.6	2.9	2.3	3.26	.04*
Mom General	6	5.8	6.9	3.96	.02*
Mom Negative	5.3	4.9	6	3.38	.04*
Mom Competitive	3.9	4.3	4.4	.37	.7
Dad Reward	4.1	3.2	2.8	2.58	.08
Dad General	5.7	5.6	6.5	2.41	.10
Dad Negative	5.1	4.7	6.2	5.05	.01*
Dad Competitive	3.4	3.7	4.2	.52	.6
High School	4.8	4.9	5	.21	.8
Grade School	4.6	4.2	4.8	2.10	.13
Mistakes	4.3	3.8	4.8	1.83	.2

In the study by Daly and Friedrich (1981) they reported that parent and school were significant contributors to the anxiety level of students. The interrelationships among variables were tested by creating correlation matrices for mom and for dad and then using multiple regression.

Pearson correlations, as shown in Tables 13 and 14, were used for analysis of the home and school environments. The criterion variable was the student's overall level of communication apprehension. The home and school environment scores served as the predictor variables. Table 13 shows that mom reward with r = . 266 was significantly, but weakly, related to CA at the .05 level. This means that the more a mother created an encouraging, positive and supportive atmosphere for the child's communication, the more confidence the adult reported—years later. Mom general with r = -.239 was also weakly, but significant to CA at the .05 level. That is, the more the mother liked the child, the less anxiety that the child reported. Table 14 reflects that none of the dimensions for dad-home are significant. No research studies in the past have examined the mom and dad separately, yet it is obvious here that mom and dad differed in their influence on the trait of the CA of their children.

Table 13
Correlation Matrix for Mom and School

	Overall CA	Mom Rew	Mom Gen	Mom Neg	Mom Comp	High Sch	Grde Sch
Mom Rew	0.266						
Mom Gen	-0.239	-0.486					
Mom Neg	-0.084	-0.506	0.511				
Mom Comp	-0.061	0.025	-0.077	-0.072			
High Sch	-0.064	-0.154	0.087	0.180	0.065		
Grde Sch	-0.021	0.027	0.187	0.038	0.145	0.328	
Mistakes	-0.042	0.094	0.033	0.050	-0.044	0.288	0.311

Note. Mom Rew = mom's encouragement and reward, Mom Gen = mom's liking in general, Mom Neg = mom created negative environment, Mom Comp = mom's competitiveness.

Table 14
Correlation Matrix for Dad and School

	Overall CA	Dad Rew	Dad Gen	Dad Neg	Dad Comp	High Sch	Grde Sch
Dad Rew	0.219						
Dad Gen	-0.157	-0.620					
Dad Neg	-0.172	-0.601	0.742				
Dad Comp	-0.084	-0.121	0.208	0.092			
High Sch	-0.064	-0.152	0.242	0.201	0.202		
Grde Sch	-0.021	0.069	0.196	0.056	-0.017	0.328	
Mistakes	-0.042	0.069	0.197	0.144	0.244	0.288	0.311

Note. Dad Rew = Dad's encouragement and Reward, Dad's Gen = Dad's liking in General, Dad Neg = Dad created Negative environment, Dad Comp = Dad's Competitiveness

Since the correlation matrix in Table 13 revealed that mom reward (.266) and mom gen (-.239) were significantly related to CA, separate regression models were also run and appear in Tables 15-16. Table 15 indicates that mother's encouragement (reward) contributed to the equation, $F(1, 79) = 6$, $p < .05$). Mom reward accounted for 7.1% of the variance in trait anxiety, with an adjusted R-square of 5.9 %. Table 16 indicates that mom general (mother's liking for the child) contributed to the equation, $F(1, 79) = 4.77$, $p < .05$. Mom general accounted for 5.7% of the variance in trait anxiety, with an adjusted R-square of 4.5%. No relationship was found between school experiences and CA levels thus this study confirms the earlier findings by Bourhis, Allen, and Wells (1993).

Table 15
Regression for Mom Encouragement and Reward on Overall Anxiety
The regression equation is
Overall = 59.2 + 3.18 Mom Encouragement and Reward

Predictor	Coef	Stdev	t-ratio	p
Constant	59.224	4.445	13.32	0.000
Mom Rew	3.180	1.298	2.45	0.017*

s = 20.15 R-sq = 7.1% R-sq(adj) = 5.9%
Analysis of Variance

SOURCE	DF	SS	MS	F	p
Regression	1	2436.2	2436.2	6.00	0.017*
Error	79	32076.7	406.0		
Total	80	34512.9			

Note. * Denotes significance at .05 level.

Table 16
Regression for Mom General
The regression equation is
Overall = 89.5 - 3.41 Mom General

Predictor	Coef	Stdev	t-ratio	p
Constant	89.522	9.830	9.11	0.000
Mom Gen	-3.412	1.562	-2.18	0.032*

s = 20.30 R-sq = 5.7% R-sq(adj) = 4.5%

Analysis of Variance

SOURCE	DF	SS	MS	F	p
Regression	1	1964.5	1964.5	4.77	0.032*
Error	79	32548.4	412.0		
Total	80	34512.9			

Note. * Denotes significance at .05 level.

Similar to Daly and Friedrich's (1981) and Bourhis, Allen, and Wells' (1993) studies, the home environment variable was a significant predictor in this study. Their parent-home category included four variables (reward, general, negative and competition) for two parents lumped together. But unlike those earlier studies, this study used the four variables for two parents separated (of mom reward, dad reward, mom general, dad general, et cetera). This subdivision of the parental category into separate male and female roles seems to give important clarification. The results showed that mom reward and mom general were the only two contributors to the regression equation. This finding is new and unique in the literature and suggests that female figures in the

home environment are an influence in the development of speaking confidence and speaking apprehension for these community college students.

Chapter Summary

In summary, this chapter has provided a description of the sample size and the subjects and presented the results of the statistical analyses of the data on trait and state anxiety. As expected, trait anxiety remained stable. The combination treatment and speaking time reduced state anxiety on the physiological activation scale. The speech communication course also reduced trait anxiety for some. By the end of the course, HCAs had lower state anxiety scores than MCAs and LCAs. Race also contributed to CA. Asians had the highest trait anxiety scores and the lowest state anxiety scores.

The study produced original findings. They will be further explored in the next chapter.

CHAPTER V
DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This investigation used scores for self-reported communication apprehension (CA) by community college students, examining differences between students receiving a combined treatment used in four-year institutions and those receiving no treatment. The results indicated that there was no significant difference between the treatment and control groups on their pre-treatment or post-treatment trait anxiety scores. This was appropriate. During the course of my investigation, I became aware that if the Personal Report of Communication Apprehension (PRCA) scores on trait anxiety for the treatment and control groups were similar at the beginning of a semester, and if the treatment was a short-term one, then the PRCA scores should also be alike at the end of the semester. That is, when the treatment occurred over a short span of time, any trait changes between the two groups would be the result of something other than the short term treatment. The following discussion presents my reasoning about my findings on trait anxiety, my findings on state anxiety, and then my perceptions of the speech course in which this study was conducted. Lastly, I will discuss some factors that seem to influence trait anxiety due to the ethnic and environmental backgrounds of the students in those classes.

Discussion

In the course of examining the findings of this study, I became cognizant of some confusion among researchers into communication apprehension (CA). In the past, many researchers seem to have muddled trait anxiety with state anxiety. That is, they have reported that personality characteristics (traits) were relatively stable, but then ignored that stability when they planned and assessed the effectiveness of their treatments. For example, a nervous person who spoke and moved rapidly was not likely to become a calm, slow-moving person unless some sort of deep and long-term intervention occurred. Some researchers mistakenly used changes in trait scores to assess the effectiveness of a short term treatment. For example, in Nelson and Webster's (1991) study, all treatments were short-term ones and they thus failed to reduce the trait communication apprehension as measured on the PRCA. In fact, the PRCA was an inappropriate instrument to assess a short term treatment. In another case, Ayres and Hopf (1985) used the PRCA scores and a ten-minute treatment, and claimed that trait anxiety was reduced. Based on my present knowledge and viewpoint, both studies reported questionable findings.

An article by Hayes (1977) suggested that community college students have significantly higher trait anxiety than four-year college students. This current investigation revealed that the means for the trait CA scores of the community college students were slightly higher than those at four-year institutions, but well within sampling error of the norms at four-year institutions. So this study does not support Hayes' conclusions that community college students differ from four-year college students. This might be due to the use of different editions of the PRCA. Hayes based his claim on the PRCA-College, an instrument developed for college students in 1976. The PRCA-College is a 20-item, self-report survey with a mean of 60.45 and a standard deviation of 11.58; while the PRCA-24 used in this study is a 24-item survey with a mean of 65.60 and a standard deviation of 15.30. Although the PRCA-College with a .94 reliability in 1977 was strong, the PRCA-24 is more reliable (.97) and is considered the most preferred of all the PRCA instruments. Regardless of the reasons, the PRCA mean scores in this study are similar to those of four-year college students.

Since trait anxiety was used solely as a touchstone in this study, my major result pertains to the immediate, temporary conditions relating to state anxiety about speaking commonly referred to as stage fright. I wanted to evaluate how the combination technique contributed to the reduction of state anxiety. State anxiety was examined solely as a post measure. A significant interaction was found in physiological activation, an important direct manifestation of state anxiety commonly

experienced as irregular heart beat, dry mouth, sweaty palms, and feelings of exhaustion. The findings showed that the students in the control group who spoke in the second week had higher anxieties than did the other students. Thus, while the anxiety level for subjects in the treatment group remained relatively constant for the first and second week speakers, the physical manifestations of state anxiety for the students in the control group dramatically increased after hearing their peers speak the previous week. At the same time, although not a significant decline, students in the treatment group did report a modest decrease in their anxiety. The interaction between treatment and speaking time seems to tip the scales in favor of recommending the combination treatment for state anxiety of community college students. Even though not a cure for state anxiety, the combination technique (used in the treatment group with many high trait anxiety students) seemed to prevent an increase in state anxiety, serving as a palliative treatment.

Also, when the data for the CA levels were examined, the state anxiety scores were reduced for all students who had the personality characteristics of high trait anxiety. In other words, reticent speakers in both treatment and control groups were better able to control their immediate speaking anxiety as reported on eight of the ten state anxiety scores. Students high in trait communication apprehension (HCAs) demonstrated significantly lower levels of state anxiety than did students with moderate or low levels of CA. Not only did they have less overall state anxiety than moderate and low apprehensive students, but HCAs also reported more positive anticipation prior to their speeches, more poise, and more desire to answer more questions from the audience about their speeches. Obviously, the treatment was not the cause of low scores for the HCAs on state anxiety, but HCAs benefited somehow.

The unanticipated low state anxiety scores for the HCAs led to an examination and assessment of the effect of the course. The content of the speech course proved effective not only in helping HCAs with their state anxiety (see above), but also in helping all students to reduce their PRCA trait scores at the end of the semester. All students in the study—both treatment and control groups—decreased their trait anxiety levels. When 73% of all high CAs moved to a whole new different level (either moderate or low) this was a clear indication that the speech course reduced their trait anxiety. That is an excellent outcome for a required course. Since community college students need all the confidence and support they can amass, anything that contributes to a state of self-confidence is valuable.

Another aspect of my original research plan was to gather demographic data that might show a significant impact on the trait scores. That is, if females reported higher anxiety scores, that data would provide facts regarding a common myth about females. Likewise, commonly-known viewpoints about ethnic groups or childhood experiences might be supported or refuted with the survey data and PRCA scores on traits. Using the demographic data base, the tests showed no differences in CA levels for age, sex, or number of languages, but the tests did show differences across for both racial groups and childhood background as reported on the retrospective instruments developed by Daly and Friedrich (1981).

The data on ethnicity provided a surprising outcome. Although Asians reported more trait anxiety in communicating interpersonally and in their general communication situations over other ethnic groups, they also unexpectedly reported less state anxiety at the end of the semester. Shyness, confusion, excessive pre- and post-speech physical body movements are among a few factors where Asians reported less state anxiety than Whites and Blacks. In this study, Asians at NVCC Alexandria campus reported having the greatest control of state anxiety. Olivas (1979) asserted that community colleges are especially important in helping minority groups to access higher education. Perhaps the Asians in this study benefited from the community college environment.

Recalling childhood experiences, regardless of race, was a suitable source of information called retrospection. A survey instrument published by Daly and Friedrich (1981) was minimally adapted and provided original and deeper details about the influence of parental behaviors on trait anxiety. Daly and Friedrich's category of parent-home was clarified to reveal the primary importance of the mother/female figure. When the CA levels were examined separately, mom-home was significant to CA. Positive reinforcement and encouragement in the home from the mother or female figure and the mom's liking the child at an early age were important to developing a positive attitude toward communicating with others. Conversely, when both parents expressed negative verbal communication, the children developed a negative attitude toward communicating with others. Fathers or male figures in this study had little direct impact on the child's CA level.

This study failed to support Daly and Friedrich's (1981) claim that school is essential in developing a positive attitude toward communication. Daly and Friedrich also claimed that school was more important than the parent-home environment, but this study indicated otherwise. In fact, none of the school dimensions in this study showed any relationships to the anxiety levels of the students. Bourhis, Allen, and Wells' (1993) study similarly reported no effect on the school dimension.

This segment discussed my findings as they applied to trait anxiety, state anxiety, the speech course at NVCC, and some factors that seem to influence trait anxiety due to the ethnic and environmental backgrounds of the students. The same organizational sequence will ensue in the following section.

Conclusions

Differences among PRCA instruments must be acknowledged when making comparisons among older and more recent studies that address trait anxiety. Also, more clarification and possibly clearer standards for speech anxiety might help to identify poor versus desirable levels of anxiety. No research, as yet, has focused on the claims by some speech teachers that those who report the trait of LCA would benefit from the anxiety that stimulates better preparation and practice.

It might be that HCAs in general (as a trait) may have found the public speaking situation (as an anxious state) no more anxiety-inducing than any other speaking environment. They might have found this particular environment less threatening than they had anticipated.The LCAs (who reported that they were composed in most speaking environments) might have found the situation caused more tension when they actually faced an audience than they had anticipated. Thus, students with low communication apprehension scores may not have experienced apprehension in situations where tension would have been appropriate. A little anxiety might have stimulated better preparation and thus induced low state anxiety.

When Buss (1980) and Daly and Hailey (1983) studied state anxiety, they posited that novelty, subordinate status, conspicuousness, unfamiliarity, dissimilarity, evaluation, and prior history were causes of the state tension that an individual has in front of an audience (audience anxiety). Buss (1980) also claimed that the status of an audience determines the intensity of the anxiety. This study reported that many of the HCAs perceived the speaking situation as new and formal—but not so new or formal as to exclude the relaxed attitude they had learned during the semester. They may have seen their peers and instructors as equals, and themselves as experts on their topics. In essence, the content of the basic speech course united with the combination technique given to the treatment group addressed all aspects of the contributing factors to state anxiety that were identified by Buss, Daly and Hailey.

Since this study showed a significant interaction between treatment and speaking during the second week, more attention to treatment might be concentrated during the second week of public presentations. The students who speak on the second week may notice the uneasiness, awkwardness, skill, or ease of students speaking the first week, thus causing more anxiety for the second week speakers. If other researchers at community colleges replicate this study, extended treatment in anxiety reduction might be needed to help the second week speakers.

Otterbacher and Munz (1973) hypothesized that state changes usually come before trait changes, and this might apply to the HCA subjects in this study. Students in the HCA group reported lower state anxiety scores on the SA Scales than the MCAs and LCAs. And, due to the course, 19 of the 26 students who were classified as HCAs (trait) at the beginning of the course were classified as either moderate or low communication apprehensives at the end of the course. Thus, 73% of the HCAs changed in the course of 16 weeks. The lower state anxiety scores for HCAs during weeks 14 and 15 might have influenced the lower scores on the PRCA completed during week 16. Thus, since lower state anxiety was reported one week before the change in trait scores was shown, this study might be interpreted to support the hypothesis of Otterbacher and Munz.

Anxiety does not have to be a negative experience for some people—as discussed in the research by Segovis (1990), McGrath (1976), Schuler (1980), and Folkman and Lazarus (1984). The HCAs in this study who reported the lower state anxiety scores might possibly have been students who enjoyed experiencing a feeling of accomplishment, the challenge involved with overcoming odds, and a high variety of creative, critical thinking skills in speech-making. Possibly, the HCAs in this study accepted their high anxiety as natural and managed to convert their anxious feelings into positive energy. Maybe they learned to harness the energy generated by apprehension so that their speaking was more dynamic. Most research suggests that absence of anxiety often yields a flat, dull presentation. In fact, transformed anxiety can make a speech come alive. The HCAs in this study may have learned to convert their negative anxiety to a positive experience.

In this study, speech courses made a difference in reducing anxiety for the community college students. Taking a speech course reduced meeting, small group, public, and overall communication apprehension. Although not an original research question, the results of this study support the requirement of speech courses for NVCC students.

Another interesting outcome was what this study showed about anxiety in ethnic groups. Many Asian children were raised with people who spoke no English or English as a second language, and the research reports that Asian children generally value quietness and silence. Yet, the Asians in this study disclosed lower state anxiety scores than Whites and Blacks. Maybe these Asians have found a unique and suitable way to communicate in speech classes at community colleges. Is it possible that some ethnic group members reached a state of calmness and confidence and might tell others how they achieved this? Certainly, such information would be interesting.

Lastly, retrospection provided another important factor in our understanding the development of trait CA. Apparently, the hand that rocks the cradle not only rules the world, but can create a confident, relaxed speaker. Some people may be reluctant to minimize the importance of male figures in a home, but the development of confidence in speaking, as reported through retrospection, seems to be the domain of mother/female figures. The content of this section led to the ensuing recommendations.

Recommendations for Further Research

Little research exists that probes the depths of the relationships between communication apprehension (CA) and community college students. This investigation has illuminated major issues related to CA in terms of: trait and state anxiety, speech course content, ethnicity, and retrospection.

Certainly, the data base of research on CA at community colleges should be extended. In other words, we need more studies of CA with larger numbers of students. The researchers must make decisions about their studies with a full understanding of the fundamental differences between trait and state anxiety. I suggest that a focus on state anxiety with the use of trait scores as a check would be a productive area for study. Future studies of communication apprehension might also investigate differences in trait and state anxiety between community college students and their four-year counterparts. Additionally, more research about how minorities manage anxiety needs to be undertaken.

The community college curriculums should consider stressing the positive features of reducing anxiety levels, screen students to determine their levels of CA, and develop different methods of reducing anxiety. Community colleges should require basic speech courses that include once-per-week treatments of 15-minute combination techniques that are extended for six weeks. Also, the meanings, effects, causes, and treatment approaches of CA could be included in that basic speech course. Appropriate anxiety levels should be identified through rigorous research to clarify or identify a good anxiety level. Booth-Butterfield (1986) discovered that when HCAs are given more guidance and structure, they perform better than MCAs and LCAs. The results with the state anxiety for HCAs in this study seem to support their claims and therefore I recommend highly structured communication classes for HCAs. Any technique that details the development of CA could serve to help students control and reduce CA in the classroom.

Many researchers argue that anxiety reduction treatments are designed to assist only highly apprehensive individuals. Future studies could examine only the HCAs at community colleges. This procedure could act to ensure that the treatment and control groups have an equal number of HCAs. This way, superior treatments for speaking anxiety might more readily be detected.

The research literature on communication apprehension reported a reduction in trait anxiety at many four-year institutions through the use of commonly accepted short term techniques. This research attempted to translate the treatments used in four-year institutions into a treatment suitable for the state anxiety of community college students. The combination treatment in this study was not effective in reducing state anxiety, although it might have increased the confidence of those students speaking during the second week. One of the major outcomes of this study was to identify the importance of researcher clarity on appropriate measures of trait versus state anxiety. Trait anxiety might sometimes be used as a trustworthy, dependable variable that clearly identifies the effect of a treatment for state anxiety. None of the literature has reported this. Educators who teach in community colleges are cautioned to discover and prepare appropriate, germane treatments for communication apprehension. This study clarified some worthwhile areas for future research.

REFERENCES

Ackley, R. J. (1980). The adult learner in the business education classroom, Business Education Forum, 34 (7), 6-7.

Allen B. P. & Potkay, C. R. (1981). On the arbitrary distinction between states and traits, Journal of Personality and Social Psychology, 41 (5), 916-928.

Allen J. L., Long, K. M., O'Mara J. (1985). Communication apprehension, generalized and Commission on Communication Apprehension Program, at the Speech Communication Association's Annual Meeting. (ERIC Document Reproduction Service

Allen, M., Hunter, J. E., & Donohue, W. A. (1989). Meta-analysis of self-report data on the effectiveness of public speaking anxiety treatment techniques, Communication Education, 38, 55-76.

Allport, G. (1937). Personality: A psychological interpretation. New York: Holt.

Assagioli, R. (1973). The act of will. New York: Viking Press.

Ayres, J. & Hopf, T. (1985). Visualization: A means of reducing speech anxiety. Communication Education, 34, 318-323.

Ayres, J. & Hopf, T. (1989). Visualization: Is it more than extra-attention? Communication Education, 38, 1-5.

Ayres, J. & Hopf, T. (1992). Visualization: Reducing speech anxiety and enhancing performance. Communication Reports, 5 (1), 1-10.

Ayres, J., Hopf, T., Ayres, D. M. (1994). An examination of whether imaging ability enhances the effectiveness of an intervention designed to reduce speech anxiety. Communication Education, 43 (3), 252-258.

Ayres, J. & Raftis, S. M. (1992). The impact of evaluation and preparation time on high public speaking anxious speakers' thoughts, behavior, and state-communication apprehension, Southern Communication Journal, 57 (4), 323-327.

Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice-Hall.

Beatty, M. J., Balfantz, G. L. & Kuwabara, A. Y. (1989). Trait-like qualities of selected variables assumed to be transient causes of performance state anxiety, Communication Education, 38, 277-289.

Beatty, M. J., Dobos, J. A. (1993). Mediated effects of adults males' perceived confirmation from father on relational partners' communication apprehension. Southern Communication Journal, 58 (3), 207-214.

Behnke, R. R. Sawyer, C. R. & King, P. E. (1994). Contagion theory and the communication of public speaking anxiety, Communication Education, 43 (3), 246-251.

Berko, R. & Brooks, M. (1995). Results of Speech Communication Association Survey of Communication as a Component of the General Education Requirements. (Available from the Speech Communication Association, 5105 Backlick Road, Annandale, VA)

Berquist, C. Bourhis, J. & Allen, M. (1992). Like father, like sons and daughters: Predicting communication apprehension in families. Paper presented at the Annual Convention of the Speech Communication Association.

Biggers, T. (1988). Decreasing communication anxiety through public speech training. Paper presented at the International Communication Association Convention, Montreal, Canada (ERIC Document Reproduction Service No. ED 297 406)

Bohr, L. Pascarella, E., Nora, A., Zusman, B., Jacobs, M., Desler, M. & Bulakowski, C. (1994). Cognitive effects of two-year and four-year institutions: A preliminary study. Community College Review, 22 (1), 4-11.

Booth-Butterfield, M. (1986). Stifle or stimulate? The effects of communication task structure on apprehensive and non-apprehensive students. Communication Education, 35, 337-348.

Booth-Butterfield, M., & Booth-Butterfield, S. (1993). The role of cognitive "performance orientation" in communication anxiety. Communication Quarterly, 41 (2), 198-209.

Bourhis, J., Allen, M., & Wells, W. (1993). School and home environments as contributing factors in the development of communication apprehension in children. Paper presented at the 79th Annual Meeting of the Speech Communication Association, Miami Beach, FL (ERIC Document Reproduction Service No. ED 367 018)

Bourhis, J. & Noland, T. (1990). Communication apprehension and academic achievement in a basic course in interpersonal communication. Paper presented at the 76th Annual Meeting of the Speech Communication Association, Chicago, IL (ERIC Document Reproduction Service No. ED 324 728)

Bourhis, J., Thachuk, H., Allen, M. (1993). A comparison of and commentary on cross-cultural communication apprehension research: A preliminary assessment. Paper presented at the 79th Annual Meeting of the Speech Communication Association, Miami Beach, FL (ERIC Document Reproduction Service No. ED 367 010)

Brophy J. (1986). Socializing student motivation to learn. East Lansing, MI: Michigan State University, The Institute for Research on Teaching. (ERIC Document Reproduction Service No. ED 269 384)

Bruskin Associates, (1973). "What are Americans afraid of?" The Bruskin Report, no. 53.

Buhr, T. A., Pryor, B., Sullivan, M. (1991). A further examination of communication apprehension and information processing. Cognitive Therapy and Research, 15 (4), 303-317.

Burrough, N. F. & Marie, V. (1990). Communication orientations of Micronesian and American students. Paper presented at the Annual Meeting of the Western Speech Communication Association, Sacramento, CA (ERIC Document Reproduction Service No. ED 323 582)

Buss, A. H. (1980). Self-consciousness and social anxiety. San Francisco: W. H. Freeman and Co.

Cattell, R. B. (1957). The IPAT Anxiety Scale. Champaign, IL: Institute for Personality and Ability Testing.

Cattell, R., Scheier, I. H. & Lorr, M. (1961). The meaning and measurement of neuroticism and anxiety. New York: Ronald.

Cattell, R., Scheier, I.H. & Lorr, M. (1962). Recent advances in the measurement of anxiety, neuroticism, and the psychotic syndromes. Annals of the New York Academy of Sciences, 93, (20), 813-856.

Chesebro, J. W., McCroskey, J. C., Atwater, D. F., Bahrenfuss, R. M., Cawelti, G., Gaudino, J. L., Hodges, H. (1992). Communication apprehension and self-perceived communication competence of at-risk students, Communication Education, 41, 345-60.

Clevenger, T., Jr. & Bledsoe, D. L. (1990). Are there separate factors in the speech anxiety state?. Unpublished manuscript, The Florida State University, Department of Communication, Tallahassee.

Clevenger, T., Jr. & Halvorson, S. K. (1992). Converting the PRCA-State Version 2 to the Speaker Anxiety Scale. Unpublished manuscript, The Florida State University, Department of Communication, Tallahassee.

Clevenger, T., Jr. & Halvorson, S. K., & Bledsoe, D. L. (1992). Identification and validation of independent factors in the speech anxiety state. Paper presented at the Speech Communication Association convention, Atlanta, GA.

Cohen, A. M. (1991). International counterparts of the American community college. Los, Angeles, CA: Center for the Study of Community Colleges. (ERIC Document Reproduction Service No. ED 339 427)

Cohen, M. C. (1983). An overcoming speech anxiety course for the community. Paper presented at the Annual Meeting of the Eastern Communication Association, Ocean City, MD (ERIC Document Reproduction Service No. ED 232 226)

Comadena, M. E. & Comadena, P. M. (1984). Communication apprehension and elementary school achievement: A research note. Paper presented at the 34th Annual Meeting of the International Communication Association, San Francisco, CA. (ERIC Document Reproduction Service No. ED 247 622)

Comadena, M. E. & Prusank, D. T (1988). Communication apprehension and academic achievement among elementary and middle school students. Communication Education, 37 (4), 270-277.

Connell, S. H. & Borden, G. A. (1987). Incorporating treatment for communication apprehension into oral communication courses. Communication Education, 36, 56-61.

Courtney, J., Liebowitz, S., & Fischer, E. (1991). Communication apprehension and the Hispanic public speaking student at the University of Texas--Pan American. Paper presented at the 77th Annual Meeting of the Speech Communication Association, Atlanta, GA (ERIC Document Reproduction Service No. ED 348 708)

Cronin, M. W., Grice, G. L.& Olsen's, Jr., R. K. (1994). The effects of interactive video instruction in coping with speech fright, Communication Education, 43 (1), 42-53.

Daly, J. A. (1986). Communication apprehension in the college classroom. In J. M. Civikly (Ed.), New Directions for Teaching and Learning, No. 26. San Franciso: Jossey-Bass.

Daly J. A. (1989). Pre-performance concerns associated with public speaking anxiety. Communication Quarterly, 37 (1), 39-53.

Daly, J. A. & Friedrich, G. (1981). The development of communication apprehension: A retrospective analysis of contributory correlates. Communication Quarterly, 29, 243-255.

Daly, J. A, & Haily, J. L. (1983). Putting the situation into writing research: Situation parameters of writing apprehension as disposition and state. In R. E. Beach and L. Bidwell (Eds.), New directions in composition research. New York: Guilford.

Daly, J. A., & McCroskey, J. C. (1975). Occupational desirability and choice as a function of communication apprehension. Journal of Counseling Psychology, 22, 309- 313.

Daly, J. A., & Shamo, W. (1977). Academic decisions as a function of written and oral communication apprehension. Paper presented at the Annual Conference of the International Communication Association, Berlin, Germany.

Deffenbacher, J., Michaels, A., Daley, P., & Michaels, T. (1980). A comparison of homogeneous and heterogeneous anxiety management training. Journal of Counseling Psychology, 27, 630-634.

DeFleur, M. L., Kearney, P., & Plax, T. G. (1992). Fundamentals of human communication. Mountain View, CA: Mayfield Publishing Company.

Dougherty, K. (1992). Community colleges and baccalaureate attainment. Journal of Higher Education, 63, 198-214.

Ellis, A. (1957). Outcome of employing three techniques of psychotherapy. Communication Yearbook 2. New Brunswick, NJ: Transaction Books.

Endler, N. S., Hunt, J. & Rosenstein, A.J. (1962). An S-R inventory of anxiousness. Psychological Monographs, 76, (Whole No. 536)

Ericson, P. M. & Gardner, J. W. (1992). Two longitudinal studies of communication apprehension an its effects on college students' success. Communication Quarterly, 40 (2), 127-137.

Falcione, R. L., McCroskey, J. C. & Daly, J. A. (1977). A job satisfaction as a function of employees' communication apprehension, self-esteem, and perceptions of their immediate supervisor. In B. D. Ruben, (Ed.), Communication yearbook 1. New Brunswick, NJ: Transaction Books.

Fayer, J., McCroskey, J. C., & Richmond, V. P. (1985). Don't speak to me in English: Communication apprehension in Puerto Rico. Communication Quarterly, 33, 185-192.

Folkman, S. & Lazarus, R. S. (1984). If its changes it must be a process: A study of emotion and coping during three stages of a college examination. Journal of Personality and Social Psychology, 48, 150-170.

Fremouw, W. J. & Scott M. D. (1984). Cognitive-behavioral therapies for modification of communication apprehension. In J. A. Daly and J. C. McCroskey (Eds.). Avoiding communication: Shyness, reticence, and communication apprehension, 209-215, Beverly Hills, CA: Sage.

Freud, S. (1924). Collected paper. (Vol. 1). London: Hogarth.

Frymier, A. B. (1993). The relationships among communication apprehension, immediacy and motivation to study. Communication Reports, 6 (1), 8-17.

Gross, L. (Ed.). (1996, April/May). New career resources. Update Career, 7 (2).

Gross, R. & Fremouw, W. (1982). Cognitive restructuring and progressive relaxation for treatment of empirical subtypes of speech-anxious subjects, Cognitive Therapy and Research, 6, 429-436.

Hallmark, J. R., Hanson, T. L., Padwich, G. & Abel, D.(1993). Communication apprehension remediation: The interaction effect of video self-observation and gender. Paper presented at the Annual Meeting 79th of the Speech Communication Association, Miami, FL (ERIC Document Reproduction Service No. ED 363 902)

Halvorson, S. K. (1993). A comparative analysis of the effects of relaxation techniques on trait and state anxiety in public speaking situations. Unpublished doctoral dissertation, Florida State University.

Hamilton, P. R. (1972). The effect of risk proneness on small group interaction, communication apprehension, and self-disclosure. Unpublished master's thesis, Illinois State.

Hawkins, D. (1994). Communication apprehension and academic advising: Advising the communicatively apprehensive student. NACADA Journal, 14 (2), 130-133.

Hay E. A. (1992). Speech resources: Exercises and activities (2nd ed.). Roxbury Publishing Company.

Hayes, B. & Marshall, W. (1984). Generalization of treatment effects in training public speakers. Behavioral Research Therapy, 22, 519-533.

Hayes, D. T. (1977). Communication apprehension among JWCC Students: Comparison with national norms for four-year college and university students. (ERIC Document Reproduction Service No. ED 151 068)

Hayward, P. A. (1993). What is the color of apprehension? An activity for a speaking apprehension course. Paper presented at the 79th Annual Meeting of the Speech Communication Association, Miami Beach, FL (ERIC Document Reproduction Service No. ED 372 421)

Hazzard, T. (1993). Programs, issues, and concerns regarding nontraditional students with a focus on a model orientation session. (University Continuing Education). Tallahassee: Florida State University.

Hill. R. D. & Vandervoort, D. (1992). The effects of state anxiety on recall performance in older learners. Educational Gerontology, 18, 597-605.

Hopf, T., Ayres, J., & Colby, N. (1994). Using visualization to reduce communication apprehension in initial interaction: A brief report. Communication Reports, 7 (1), 57-59.

Husek, T. R. & Alexander, S. (1963). The effectiveness of the anxiety differential in examination of stress siltations. Educational Psychological Measurement, 23, 309-318.

Jaremko, M., Hadfield, R., & Walker, W. (1980). Contribution of an educational phase to stress inoculation of speech anxiety. Perceptual and Motor Skills, 50, 495-501.

Karabel, J. (1972). Community colleges and social stratification: Submerged class conflict in American higher education. Harvard Educational Review, 42, 521-62.

Kelly, L. & Keaten, J. (1992). A test of the effectiveness of the reticence program at the Pennsylvania state university. Communication Education, 41 (4), 361-374.

Klopf D. W. & Cambra R. E. (1979). Communication apprehension among college students in America, Australia, Japan, and Korea: University of Hawaii. The Journal of Psychology, 102, 27-31.

Kondo, D. S. (1994). Strategies for reducing public speaking anxiety in Japan. Communication Reports, 7 (1), 20-26.

Krugman, M., Kirsch, I., Wickless, C., Milling, L., Golicz, H., & Toth, A. (1985). Neuro-linguistic programming treatment for anxiety: Magic of myth? Journal of Consulting and Clinical Psychology, 53, 526-530.

Levine, T. R., & McCroskey, J. C. (1990). Measuring trait communication: A test of rival measurement models of the PRCA-24. Communication Monographs, 57, 62-72.

Lustig, M. W. (1974). Verbal reticence: A reconceptualization and preliminary scale development. Paper presented at the Speech Communication Association, Chicago.

Lyne, B. (1992). Speaking for myself. . . I'd really rather not. The New York Times Business Day, p. 1.

MacIntyre, P. D., Gardner, R. C. (1991). Language Anxiety: Its relationship to other anxieties and to processing in native and second languages. Language Learning, 41 (4), 513-534.

Mandeville, M. Y. (1993). A special section of the basic speech communication course for students with public speaking anxiety. Paper Presented at the 79th Annual Meeting of the Speech Communication Association, Miami Beach, FL (ERIC Document Reproduction Service No. ED 366 030)

Marshall, W., Parker, L., & Hayes, B. (1982). Treating public speaking problems. Behavior Modification, 6, 147-170.

McCroskey, J. C. (1970). Measures of communication-bound anxiety. Speech Monographs, 37, 269-277.

McCroskey, J. C. (1972). The implementation of a large-scale program of systematic desensitization for communication apprehension. Speech Teacher, 21, 255-264.

McCroskey, J. C. (1977). Oral communication apprehension: A summary of recent theory & research. Human Communication Research, 4, 78-96.

McCroskey, J. C. (1980). Quiet children in the classroom: On helping not hurting. Communication Education, 29, 239-244.

McCroskey, J. C. (1982a). Introduction to rhetorical communication (4th ed.). New Brunswick, NJ: Prentice-Hall.

McCroskey, J. C. (1982b). Oral communication apprehension: A reconceptualization. In J. K. Burgoon (Eds.). Communication Yearbook VI, New Brunswick: Transaction Books.

McCroskey, J. C. (1984). The communication apprehension perspective. In J. A. Daly and J. C. McCroskey (Eds.). Avoiding communication: Shyness, reticence and communication apprehension, 13-38, Beverly Hills, CA: Sage.

McCroskey, J. C., & Andersen, J. F. (1976). The relationship between communication apprehension and academic achievement among college students. Human Communication Research, 3, 73-81.

McCroskey, J. C., Beatty, M. J., Kearney, P., & Plax, T. G. (1985). The content validity of the PRCA-24 as a measure of communication apprehension across communication contexts. Communication Quarterly, 33 (3), 165-173.

McCroskey, J. C., Booth-Butterfield, S., & Payne, S.K. (1989). The impact of communication apprehension on college student retention and success. Communication Quarterly, 37 (2), 100-07.

McCroskey, J. C. Daly, J. A., & Sorensen, G. A. (1976). Personality correlates of communication apprehension. Human Communication Research, 2, 376-380.

McCroskey, J. C., Gudykunst, W. B., & Nishida, T. (1985). Communication apprehension among Japanese students in native and second languages. Communication Research Reports, 2, 11-15.

McCroskey, J. C. & Leppard, T. (1975). The effects of communication apprehension on nonverbal behavior. Paper presented at the Eastern Communication Association, New York.

McCroskey, J. C. & Payne, S. K. (1986). The impact of communication apprehension on student retention and success: A preliminary report, ACA-Bulletin, no. 56, pp. 65-69.

McCroskey, J. C. & Ralph, D. C. (1970). The effect of systematic desensitization on speech anxiety. Speech Teacher, 19, 32-36.

McCroskey, J. C., & Richmond, V. P. (1981). The etiology and effects of communication apprehension: Cross-cultural implications. Paper presented at the Puerto Rico Speech Communication Association convention, San Juan.

McCroskey, J. C., & Richmond, Virginia, P. (1982). The quiet ones: Communication apprehensive and shyness (2nd ed.). Dubuqe: Gorsuch-Scarisbrick.

McCroskey, J. C., Simpson, T. J., & Richmond, V. P. (1982). Biological sex and communication apprehension. Communication Quarterly, 30, 129-133.

McGrath, J. E. (1976). Stress and behavior in organizations. In M. D. Dunnette (ED.), Handbook of industrial and organizational psychology (pp. 1351-1395). Chicago: Rand McNally.

Mehrabian, A. (1971). Silent messages. Belmont, CA: Wadsworth Publishing Company.

Miller, M. T. & Edmund, N. A. (1992). Communication apprehension and academic achievement implications for industrial education students. Journal of Epsilon Pi Tau, 18 (1), 33-37.

Miura, S. Y. (1985). Communication apprehension and bi-dialectical speakers: An exploratory investigation. Communication Research Reports, 2, 1-4.

Moore, D. L. (1972). The effects of systematic desensitization on communication apprehension in an aged population. Unpublished master's thesis, Illinois State University.

Mordeno, J., Cambra, R., Klopf, D. (1980). Communication apprehension: Its incidence in the Philippines and elsewhere. Paper presented at the meeting of the Communication Association of the Pacific-Philippines Lecture Series. (ERIC Document Reproduction Service No. ED 194 931)

Motley, M. T. (1988). Taking the terror out of talk. Psychology Today, 22 (1), 46-49.

Neer, M. R. (1982). Instructional methods for managing speech anxiety in the classroom. Paper presented at the 68th Annual Meeting of the Speech Communication Association, Louisville, KY (ERIC Document Reproduction Service No. ED 222 942)

Neiman, G. S., Rubin, R. B. (1991). Changes in communication apprehension, satisfaction, and competence in foreign dialect and stuttering clients. Journal of Communication Disorders, 24 (5-6), 353-366.

Nelson, E. S. & Webster, S. (1991). Visualization and rational-emotive therapy as interventions for communication apprehension. Paper presented at the Annual Carolinas Psychology Conference, Raleigh, NC (ERIC Document Reproduction Service No. ED 350 639)

Newburger, C., Brannon, L., & Daniel, A. (1994). Self-confrontation and public speaking apprehension: To videotape or not videotape student speakers? Paper presented at the Annual Meeting of the Speech Communication Association, New Orleans, LA (ERIC Document Reproduction Service No. ED 371 419)

Office of Institutional Research (1996, Fall). [Northern Virginia Community College student profile]. Unpublished raw data.

O' Keefe, V. (1993). How to help adult and nontraditional students find success through the communication course. Paper presented at the Annual Meeting of the American Educational Association, New Orleans, LA.

Olivas, M. A. (1979). The dilemma of access: Minorities in two-year colleges. Washington, D.C. Howard University Press.

Ottens, A. J. & Hruby, P. J. (1994). Development of an academic anxiety coping instrument. Paper presented at the 79th Annual Meeting of the Speech Communication Association, Miami Beach, FL (ERIC Document Reproduction Service No. ED 368 006)

Otterbacher, J. R., & Munz, D. C. (1973). State-trait measure of experiential guilt. Journal of Consulting and Clinical Psychology, 40, 115-121.

Page, W.T. (1991). Helping the nervous presenter: Research and prescriptions. The Journal of Business Communication, 22 (2), 9-19.

Paul, G. L. (1966). Insight versus desensitization in psychotherapy. Stanford, CA: Stanford University.

Pelias, M. H. (1989). Communication apprehension in basic public speaking texts; an examination of contemporary textbooks, Communication Education, 38 (1), 41-53.

Phillips, G. M. (1968). Reticence: Pathology of the normal speaker. Speech Monographs, 35, 39-49.

Phillips, G. M. (1986). Rhetoritherapy: The principles of rhetoric in training shy people in speech effectiveness. In W. H. Jones, J. M. Cheeck, & S.R. Briggs (Eds.), Shyness: Perspectives on research and treatment, 357-374. New York: Plenum Press.

Proctor II, R. F., Douglas A. T., Garera-Izquierdo T., & Wartman, S. L. (1994). Approach, avoidance, and apprehension: Talking with high-CA students about getting help, Communication Education, 43 (4), 312-21.

Quiggings, J. G. (1972). The effects of high and low communication apprehension on small group member credibility, interpersonal attraction, and interaction. Paper Presented at the Speech Communication Association, Chicago.

Ratliffe, S. A. (1990). Multicultural emphasis supports at-risk students in language. Teacher Talk, pp. 1-2.

Richmond, V. P. (1984). Implications of quietness: Some facts and speculations. In J. A. Daly and J. C. McCroskey (Eds.). Avoiding communication: Shyness, reticence, and communication apprehension, 145-155, Beverly Hills, CA: Sage.

Richmond, V. P. & McCroskey, J. C. (1995). Communication: Apprehension, avoidance, and effectiveness (4th ed.). Arizona: Gorsuch Scarisbrick.

Rosenfeld, L. B. (1995). Communication apprehension and self-perceived communication competence of academically gifted students. Communication Education, 44 (1), 79-86.

Rossi, A. M. & Seiler, W. J. (1989). The comparative effectiveness of systematic desensitization and an integrative approach in treating public speaking anxiety: A literature review and a preliminary investigation, Imagination, Cognition and Personality, 9 (1), 49-66.

Russell, L. A. (1992). Comparisons of cognitive, music, and imagery techniques on anxiety reduction with university students. Journal of College Student Development, 33 (6), 516-523.

Samimy, K. K. & Rardin, J. P. (1994). Adult language learners' affective reactions to community language learning: A descriptive study, Foreign Language Annals, 27 (3), 377-90.

Schuler, R. S. (1980). Definition and conceptualization of stress in organizations. Organizational behavior and human performance, 24, 115-130.

Scott, M. D., Yates, M. P., & Wheeless, L. R. (1975). An exploratory investigation of the effects of communication apprehension in alternate systems of instruction. Paper Presented at the International Communication Association, Chicago.

Segovis J. C. (1990). An investigation into the structure of work-related coping: A grounded theory approach (stress). Unpublished doctoral dissertation, The University of Texas at Dallas.

Sellnow, D. D. (1993). Exploring the impact of parenthood on the role of communication Teacher. Paper presented at the Joint Meeting of the Southern States Communication Association and the Central States Communication Association, Lexington, KY (ERIC Document Reproduction Service No. ED 360 657)

Spielberger, C.D., Gorsuch, R. L., & Lushene, R. E. (1970). State Trait Inventory. Palo Alto, CA: Consulting Psychologists. New York: Academic Press.

Stowell, J. (1994). Using human interest stories to demonstrate relevant concepts in the public speaking classroom. Paper presented at the Annual Meeting of the Central States Communication Association, Oklahoma City, OK (ERIC Document Reproduction Service No. ED 372 438)

Usera, J. J. (1984). Subject anxiety of adult learners, Perspectives in Adult Learning and Development, 6, 19-26.

Watson, A. K. (1987). Communication apprehensive students as part of the developmental speech course. Paper presented at the 73rd Annual Meeting of the Speech Communication Association, Boston, MA (ERIC Document Reproduction Service No. ED 295 260)

Watson, A. & Dobb, C. (1984). Alleviating communication apprehension through rational emotive therapy: A comparative evaluation, Communication Education, 33, 257-266.

Weiner, A. N. (1973). Machiavellianism as a predictor of group interaction and cohesion. Unpublished manuscript, West Virginia.

Wells, J. A., & Lashbrook, W. B. (1970). A study of the effects of systematic desensitization of the communicative anxiety of individuals in small groups. Paper Presented at the Speech Communication Association, New Orleans.

Wenzlaff, V. J. (1971). The prediction of leadership: A consideration of selected communication variables. Unpublished master's thesis, Illinois State.

Wolpe, J. (1958). Psychotherapy by reciprocal inhibition. Stanford, CA: Stanford University.

Yarbrough, D. W. & Schaffer, J. L. (1990). A comparison of school-related anxiety experienced by nontraditional versus traditional students, College Student Journal, 24 (1), 81-90.

Zuckerman, M. (1960). The development of an affective adjective checklist for the measurement of anxiety. Journal of Consulting Psychology, 24, 457-462.

APPENDIX A

RESULTS OF TREATMENTS FOR COMMUNICATION APPREHENSION

Table A1
Systematic Desensitization (SD)

Authors	Sample Size	Ages	Length of Treatment	Outcome
McCroskey, Ralph, & Barrick (1970).	21 in a public speaking course	n/a	7- one hour sessions, 2 per week for 3 1/2 weeks	Lower anxiety for the SD group over the Control group @ .01 level
McCroskey (1972)	541 anxious students in basic communication courses	n/a	Treatment ran for 6 weeks with each treatment session lasting 1 hr.	Ss in SD group with male trainers, Ss in SD with female trainers, and Ss in SD labs with male trainers improved significantly more than did Control group @ .05 level
Rossi & Seiler (1989)	12 HCAs in junior level speech communication course	n/a	Sessions ran for 4 weeks	No difference found between IA and SD. Both reduced trait and state anxiety @ .05 level
Gross & Fremouw (1982)	63 HCA university students	n/a	SD and CR groups met twice a wk. for 2 wks for total of 5 hours of training.	SD and CR treatments were significantly better than the Control on reducing negative behaviors and feelings during speaking @ .05 level.

Table A2
Cognitive Restructuring (CR)

Authors	Sample Size	Ages	Length of Treatment	Outcome
Cronin, Grice, Olsen (1994)	138 Ss in 3 introductory public speaking courses at a university	n/a	IVI for 46 minutes LLV for 45 minutes	IVI & LLV groups achieved significantly higher CR immediate test scores than C group. IVI & LLV groups achieved significantly higher CR delayed test scores than C group. IVI & LLV achieved significantly greater reduction in speech fright over 4 wks than C group.
Hayes & Marshall (1984)	56 participants from university and local community	n/a	8 (2-hr.) sessions twice each week	CR made modest gains & then lost most of benefits. Thus, CR alone seemed relatively ineffective. However, SK had the most impact in reducing CA.
Nelson & Webster (1991)	47 students in public speaking courses at university	n/a	1 group listened to 20 min. audio-tape on CR, another on VIS, and another on speech careers	All groups failed to significantly reduce CA

Table A3
Visualization (VIS)

Authors	Sample Size	Ages	Length of Treatment	Outcome
Ayres & Hopf (1985)	430 university students	Ages 17-29 Mean age 18.7	10 minutes	Both experience & VIS variables were significant @.01. Inexperienced speakers' CA decreased more than experienced ones; MCAs & HCAs @ .05 LCAs ns MCAs & HCAs who used VIS decreased anxiety over Control group. NS difference between those LCAs who used VIS or those who did not.
Ayres, Hopf, Ayres (1994)	59 HCAs in introduction to mass communication at a university	n/a	n/a	Vivid imagers exposed to perfVIS reported significantly lower trait CA than in other groups @ .01 level. The main effect for imagery not significant. Those exposed to perfVIS reported less state CA on post-test than other groups @.001. Vivid imagers reported fewer negative thoughts after exposure to perfVIS than in other groups @ .01 level. Vivid imagers exposed to perfVIS displayed less rigidity than those in other groups @ .01.

Authors	**Sample Size**	**Ages**	**Length of Treatment**	**Outcome**
Hopf, Ayres, Colby (1994).	66 HCAs in 10 sections of public speaking courses at university	n/a	n/a	Those exposed to VIS: lowered trait CA @.001 lowered state CA @ .001, increased social attraction @.01 than placebo and control.
Halvorson	195 students in 10 public speaking classes at university	Ages 18-55 Mean age 22.19	5 min. treatment T1: Exit=E T2: Physical=P T3: VIS=V C: Remain=R	Trait CA Lowered trait CA for All groups. HCAs who participated in P had the largest reduction in trait prior to speech 3. State CA Ss in both P & V treatments reported significant reduction from speech 1 to speech 2 and between speech 1 to speech 3 @.05. P & V done 5 min. before second of three speeches, were equally effective in reducing state anxiety. However, Ss who participated in P from speech 2 to speech 3 reported significant increase in anxiety @.05.

Table A4
Skills Training (SK)

Authors	Sample Size	Ages	Length of Treatment	Outcome
Biggers (1988)	72 students enrolled in 5 sections of sophomore level public speech and 1 section of small group communication	18-50 mean of 20.2.	14 weeks	Ss who completed the public speaking course demonstrated significantly less anxiety about oral communication than the control group @ .05 Ss who completed the public speaking course demonstrated less arousal @ .005 and higher dominance @ .05 But Ss did not increase their pleasure level about giving a speech.

Table A5
Combination Treatments

Authors	Sample Size	Ages	Length of Treatment	Outcome
Marshall, Parker, Hayes (1982)	24 HCAs from university	n/a	n/a 3 treatment groups: SD + SK SK SD	<u>All treatment groups</u>: The habitual coping responses like arms being immobile, etc.; direct manifestations of anxiety like sweating, etc.; and distress experienced while speaking all improved. The distress also improved for the Control group. <u>SD + SK and SD groups:</u> Showed more improvement than SK for direct manifestations of anxiety
Connell & Borden (1987)	72 students in 4 oral communication courses at university	n/a	Duration unclear, but advocate a 10 minute relaxation tape for 6 weeks using CR + SD	CR + SD group experienced significant reduction in CA on all dimensions & overall scores @ .05. Control group experienced significant reduction in CA on the group, public speaking dimensions and overall scores @ .05 level.
Jaremko, Hadfield, & Walker (1980)	31 fearful speakers in introductory speech courses	n/a	2 (1 hr) workshops for managing speech anxiety <u>3 treatments</u> CR SD SD + CR	CR only group to improve significantly on self-reported anxiety measure @ .01. SD + CR @ .05 and CR @ .001 level groups improved on feeling more certain about various aspect of public speaking. All groups improved in displaying appropriate behaviors while speaking @ .05.

Authors	Sample Size	Ages	Length of Treatment	Outcome
Russell (1992)	Total is 78 Students from various organizations & classes	19-43 No mean age given	4 Treatment groups Music VIS VISM CR	RESULTS: With state anxiety, there was sig. effect. Ss who received VISM treatment showed a significantly lower adjusted post-treatment mean than did other groups. The adjusted means for trait anxiety and electroyography (EMG) showed no significant differences. The fact that all treatment groups and the control group had a reduction in state anxiety from pre to post should be received with caution because Ss were highly anxious, therefore, regression to the mean may have occurred.

APPENDIX B

COVER LETTER

Dear speech student:

Based on past research, we have observed that many of our speech students report they are very nervous prior to delivering a speech. To assist us in better understanding more about the fears of speaking, your speech class has been selected to help us study the anxieties many people have toward public speaking. We ask that you fill out three papers now and a set of papers at the end of the semester. The papers that you fill out today should take about 20-25 minutes. Later in the semester, some of you will be given special training that is used by professional speakers to reduce their fears. Those students who do not get the special training during the study may come for that training after the study is completed—if they want to.

Of course, this is an optional project. But this is a worthwhile project that might help people, including yourself. You can be sure that all data will be destroyed after it is analyzed. We will tell you where the data is reported, if it is published.

Your name will not be used in reporting this project. Although we will have you write your name on the papers, all identifying information will be destroyed after the data is analyzed. Your responses to these papers will not affect your grade.

Thank you for your assistance.
Brenda Lewis-Holmes
Director of Drama
Please sign that you agree to participate.
_____

APPENDIX C

FORMS: DEMOGRAPHICS, RETROSPECTIVE SCALE, PERSONAL REPORT OF COMMUNICATION APPREHENSION-24, and the SPEAKER ANXIETY SCALE

Demographics

Part I. Please fill in the blanks.

My Name is _____.
_____ is my native language. In addition to my native language, I speak _____language/s.
I am _____ years old.

How many presentations have you made in the past few years before a class? _____.
How many presentations have you made in the past few years before an audience (not a class) ? ___. Explain how you felt about making the presentation. _____
_____
_____
_____.

Part II. Circle only <u>one</u> answer (e.g. "A.") and fill in the blanks.

1. In addition to NVCC, I have attended:
   A. no other college or university
   B. 1 college or university
   C. 2 colleges or universities
   D. 3 or more colleges or universities

Specify How Long Attended Each college (e.g. (# of semesters, years, etc.)	Degrees and/or Certificates Earned

2. I have dropped out of high school or college:
   A. never
   B. 1 time
   C. 2 times
   D. 3 or more times

3. The educational objective that applies to me the most is:
   A. Explore Career possibilities
   B. Self Improvement
   C. Obtain Job
   D. Transfer
   E. Present Job Advancement

4. My Martial Status is:
   A. Married
   B. Single
   C. Divorced

5. I am the parent of one or more children who live with me.
   A. No
   B. Yes

6. I financially support one or more children who do not live with me.
   A. No
   B. Yes

7. I am currently working:
   A. One full-time job
   B. One part-time job
   C. Full-time and part-time jobs
   D. Other

8. I am at present a student at NVCC:
   A. Full-time
   B. Part-time

Retrospective Scale

Directions: This questionnaire concerns your recollection of your upbringing. The following 13 items refer to your parents or someone who raised you. Please respond to each item twice (except for #s 6, 7, 12, & 13), first as it applies to your mother or a female figure, and second as it applies to your father or a male figure. If only one parent was in the home, respond in appropriate column. Please circle all appropriate answers to indicate your strength from **(1) Strongly Agree to (7) Strongly Disagree.**

	Parent-Home	**Mother**	**Father**
1.	My parents encouraged me to talk with them when I was a child.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2.	My parents encouraged me to communicate a great deal when I was a child.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
3.	My parents were very supportive of my activities as a child.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
4.	My parents were very supportive of my friendships as a child.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
5.	I felt rewarded for communicating when I was a child.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
6.	My father did not like me.		1 2 3 4 5 6 7
7.	My mother did not like me.	1 2 3 4 5 6 7	
8.	As a child, I felt my parents paid very little attention to me.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
9.	When I was a child, my parents seldom talked to me.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
10.	When I was a child, my parents seldom talked with each other.	1 2 3 4 5 6 7	1 2 3 4 5 6 7

11.	When I was a child, my parents argued a great deal with one another.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
12.	My father was very competitive.		1 2 3 4 5 6 7
13.	My mother was very competitive.	1 2 3 4 5 6 7	

Directions: This questionnaire concerns your recollection of your school environment. Please circle all appropriate answers to indicate your strength from
(1) Strongly Agree to (7) Strongly Disagree.

School

1.	In high school the quiet kids were the ones who were praised.	1 2 3 4 5 6 7
2.	In high school students were often embarrassed when they they made mistakes.	1 2 3 4 5 6 7
3.	In high school I was punished if I talked out of turn.	1 2 3 4 5 6 7
4.	I remember high school as a very quiet place.	1 2 3 4 5 6 7
5.	In grade school I was encouraged to talk.	1 2 3 4 5 6 7
6.	My grade school had the philosophy that kids were best seen and not heard.	1 2 3 4 5 6 7
7.	I remember my grade school as being a very quiet place.	1 2 3 4 5 6 7
8.	In grade school I was often corrected for mistakes made when talking.	1 2 3 4 5 6 7
9.	In high school I was often corrected for mistakes made when talking.	1 2 3 4 5 6 7

PRCA-24 (pre-test and post-test)

Instructions. This instrument is composed of 24 statements concerning your feelings about communicating with other people. Please circle all appropriate answers to indicate your strength from
(1) Strongly Agree to (5) Strongly Disagree.

There are no right or wrong answers. Many of the statements are similar to other statements. Do not be concerned about this. Work quickly, just record your first impression.

1.	I dislike participating in group discussions.	1 2 3 4 5
2.	Generally, I am comfortable while participating in a group discussion.	1 2 3 4 5
3.	I am tense and nervous while participating in group discussions.	1 2 3 4 5

4.	I like to get involved in group discussions.	1 2 3 4 5
5.	Engaging in a group discussion with new people makes me tense and nervous.	1 2 3 4 5
6.	I am calm and relaxed while participating in group discussions.	1 2 3 4 5
7.	Generally, I am nervous when I have to participate in a meeting.	1 2 3 4 5
8.	Usually I am calm and relaxed while participating in meetings.	1 2 3 4 5
9.	I am very calm and relaxed when I am called on to express an opinion at a meeting.	1 2 3 4 5
10.	I am afraid to express myself at meetings.	1 2 3 4 5
11.	Communicating at meetings usually makes me uncomfortable.	1 2 3 4 5
12.	I am very relaxed when answering questions at a meeting.	1 2 3 4 5
13.	While participating in a conversation with a new acquaintance, I feel very nervous.	1 2 3 4 5
14.	I have no fear of speaking up in conversation.	1 2 3 4 5
15.	Ordinarily I am very tense and nervous in conversations.	1 2 3 4 5
16.	Ordinarily I am very calm and relaxed in conversations.	1 2 3 4 5
17.	While conversing with a new acquaintance, I feel very relaxed.	1 2 3 4 5
18.	I'm afraid to speak up in conversations.	1 2 3 4 5
19.	I have no fear of giving a speech.	1 2 3 4 5
20.	Certain parts of my body feel very tense and rigid while giving a speech.	1 2 3 4 5
21.	I feel relaxed while giving a speech.	1 2 3 4 5
22.	My thoughts become confused and jumbled when I am giving a speech.	1 2 3 4 5
23.	I face the prospect of giving a speech with confidence.	1 2 3 4 5
24.	While giving a speech I get so nervous, I forget facts I really know.	1 2 3 4 5

My Ethnic Background is_____
My Gender is _____

Speaker Anxiety Scale

Directions: This questionnaire concerns your reactions before, during, and after the speech you just made. Please circle all appropriate answers to indicate your strength from
(1) Strongly Agree to (5) Strongly Disagree.

1.	Before getting up to speak, my body felt strained and tense.	1 2 3 4 5
2.	I was nervous just before getting up to speak.	1 2 3 4 5
3.	The thought of giving this speech made me feel tense.	1 2 3 4 5
4.	I felt good about the prospect of making this speech.	1 2 3 4 5
5.	I looked forward to expressing my ideas.	1 2 3 4 5
6.	I faced the prospect of making this speech with confidence.	1 2 3 4 5
7.	After I began speaking, I soon forgot my fears and enjoyed the experience.	1 2 3 4 5
8.	I felt relaxed and comfortable while speaking.	1 2 3 4 5
9.	During the speech, I wanted to talk less because I felt shy.	1 2 3 4 5
10.	I was reluctant to express myself the the group.	1 2 3 4 5
11.	I disliked using my voice and body expressively.	1 2 3 4 5
12.	The speaking experience felt very natural to me.	1 2 3 4 5
13.	I was sometimes at a loss for words.	1 2 3 4 5
14.	My thought became jumbled and confused at times.	1 2 3 4 5
15.	At times during the speech I got things mixed up.	1 2 3 4 5
16.	Sometimes I could not think clearly.	1 2 3 4 5
17.	I felt poised during the speech.	1 2 3 4 5
18.	My mouth felt dry during the speech.	1 2 3 4 5
19.	During the speech, I could feel my heart beating rapidly.	1 2 3 4 5
20.	I had trouble coordinating my movements.	1 2 3 4 5
21.	My palms were sweating during the speech.	1 2 3 4 5
22.	I found it hard to look the audience in the eye.	1 2 3 4 5
23.	After the speech, my body remained tense and strained for awhile.	1 2 3 4 5

24.	After the speech I felt exhausted.	1 2 3 4 5
25.	I would have enjoyed answering more questions about the subject from the audience.	1 2 3 4 5
26.	I would enjoy the chance to present these ideas again.	1 2 3 4 5
27.	I felt short of breath after the speech.	1 2 3 4 5
28.	After the speech, I could feel my heart pounding.	1 2 3 4 5
29.	Parts of my body trembled after the speech.	1 2 3 4 5
30.	The surroundings made me feel intimidated.	1 2 3 4 5
31.	Speaking in this situation made me feel uncomfortable.	1 2 3 4 5
32.	I found the speaking conditions somehow threatening.	1 2 3 4 5

Please indicate how many times you rehearsed your speech **aloud** (not silently). Check only one.

_____ 0 time
_____ 1 time
_____ 2 times
_____ 3 times
_____ 4 times
_____ 5 times or more times

APPENDIX D

SCORING FOR THE PERSONAL REPORT OF COMMUNICATION APPREHENSION-24 AND THE SPEAKER ANXIETY SCALE

Table D
Scoring for the Personal Report of Communication Apprehension-24 is as follows:

Subscores:
Group = 18 - Q 1 + Q2 - Q3 + Q4 - Q5 + Q6
Meeting = 18 - Q7 + Q8 + Q9 - Q10 - Q11 + Q12
Dyad = 18 - Q13 + Q14 - Q15 + Q16 + Q17 - Q18
Public Speaking = 18 + Q19 - Q20 + Q21 - Q22 + Q23 - Q24
Overall Communication Apprehension = Group + Meeting + Dyad + Public Speaking

Scoring for the Speaker Anxiety Scale is as follows:

Prespeech Tension	5 - Mean of Q1 + Q2 + Q3
Positive Anticipation	5 - Mean of Q4 + Q5 + Q6
Poise	5 - Mean of Q7 + Q8 + Q12 + Q17
Shyness	5 - Mean of Q9 + Q10 + Q11 + Q22
Confusion	5 - Mean of Q13 + Q14 + Q15 + Q16
Physiological Activation	5 - Mean of Q18 + Q19 + Q20 + Q21 + Q24
Wants More	5 - Mean of Q25 + Q26
Postspeech Activation	5 - Mean of Q23 + Q27 + Q28 + Q29
Environmental Threat	5 - Mean of Q30 + Q31 + Q32

Sum of Negative = Q1 + Q2 + Q3 + Q9 + Q19 + Q10 + Q11 + Q13 + Q14 + Q15 + Q16 + Q18 + Q19 + Q20 + Q21 + Q22 + Q23 + Q24 + Q27 + Q28 + Q29 + Q30 + Q31 + Q32
Sum of Positive = Q4 + Q5 + Q6 + Q7 + Q8 + Q12 + Q17 + Q25 + Q26
Overall State Anxiety = (115 - Sum of Negative - Sum of Positive)/32+ 1.6875
The state anxiety score is scaled so that the value ranges from 1 to 5.

APPENDIX E

RESULTS OF QUANTITATIVE AND QUALITATIVE ANALYSES

Table E1
Chi-Square Test for CA Levels in Four Classes

	HCA	MCA	LCA	Total
Cl 1				
N	7	5	6	18
Row %	38.89	27.78	33.33	
Cl 2				
N	4	11	7	22
Row %	18.18	50.00	31.82	
Cl 3				
N	5	10	3	18
Row %	27.78	55.56	16.67	
Cl 4				
N	10	10	3	23
Row %	43.48	43.48	13.04	
Total				
N	26	36	19	81
Row %	32.10	44.44	23.46	

CHI-SQUARE = 7.222 WITH D.F. = 6 p = .30
Note. Cl 1 = Class 1, Cl 2= Class 2, Cl 3= Class 3, Cl 4= Class 4

Table E2
Chi-Square Test for CA Day and Night Classes

		HCA	MCA	LCA	Total
Day					
	N	12	15	9	36
	Row %	33.33	41.67	25.00	
Night					
	N	14	21	10	45
	Row %	31.11	46.67	22.22	
Total					
	N	26	36	19	81
	Row %	32.10	44.44	23.46	

CHI-SQUARE = 0.209 WITH D.F. = 2 p = .90

Table E3
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Overall PRCA-24 (Post Course)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	10813.5	10532.2	10532.2	85.99	0.000
Treatment	1	15.0	18.2	18.2	0.15	0.701
Time	1	28.4	28.6	28.6	0.23	0.631
Treatment x Time	1	3.4	3.4	3.4	0.03	0.868
Error	76	9308.8	9308.8	122.5		
Total	80	20169.1				

Table E4
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Group PRCA-24 (Post Course)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	778.78	826.91	826.91	42.56	0.000
Treatment	1	51.88	55.25	55.25	2.84	0.096
Time	1	0.17	0.14	0.14	0.01	0.933
Treatment x Time	1	36.18	36.18	36.18	1.86	0.176
Error	76	1476.56	1476.56	19.43		
Total	80	2343.58				

Table E5
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Meeting PRCA-24 (Post Course)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	807.90	768.35	768.35	46.17	0.000
Treatment	1	2.31	1.24	1.24	0.07	0.786
Time	1	16.17	16.12	16.12	0.97	0.328
Treatment x Time	1	1.43	1.43	1.43	0.09	0.770
Error	76	1264.88	1264.88	16.64		
Total	80	2092.69				

Table E6
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Dyad PRCA-24 (Post Course)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	687.98	631.70	631.70	66.62	0.000
Treatment	1	1.08	0.81	0.81	0.09	0.771
Time	1	1.26	1.29	1.29	0.14	0.714
Treatment x Time	1	6.85	6.85	6.85	0.72	0.398
Error	76	720.63	720.63	9.48		
Total	80	1417.80				

Table E7
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Public PRCA-24 (Post Course)

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	576.07	533.37	533.37	23.43	0.000
Treatment	1	9.90	11.07	11.07	0.49	0.488
Time	1	0.02	0.01	0.01	0.00	0.984
Treatment x Time	1	17.98	17.98	17.98	0.79	0.377
Error	76	1729.90	1729.90	22.76		
Total	80	2333.88				

Table E8
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Overall State Anxiety

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	10.4527	10.0094	10.0094	26.80	0.000
Treatment	1	0.0028	0.0024	0.0024	0.01	0.936
Time	1	0.1416	0.1457	0.1457	0.39	0.534
Treatment x Time	1	0.7574	0.7574	0.7574	2.03	0.159
Error	76	28.3863	28.3863	0.3735		
Total	80	39.7408				

Table E9
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Prespeech

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	11.123	11.717	11.717	8.64	0.004
Treatment	1	0.358	0.440	0.440	0.32	0.570
Time	1	2.575	2.618	2.618	1.93	0.169
Treatment x Time	1	4.634	4.634	4.634	3.42	0.068
Error	76	103.039	103.039	1.356		
Total	80	121.728				

Table E10
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Positive Anticipation

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Overall	1	13.681	14.020	14.020	13.32	0.000
Treatment	1	0.538	0.379	0.379	0.36	0.550
Time	1	2.592	2.606	2.606	2.48	0.120
Treatment x Time	1	0.541	0.541	0.541	0.51	0.476
Error	76	80.007	80.007	1.053		
Total	80	97.358				

Table E11
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Poise

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	7.3638	7.3094	7.3094	10.39	0.002
Treatment	1	0.0615	0.0388	0.0388	0.06	0.815
Time	1	0.1897	0.1877	0.1877	0.27	0.607
Treatment x Time	1	0.1390	0.1390	0.1390	0.20	0.658
Error	76	53.4420	53.4420	0.7032		
Total	80	61.1960				

Table E12
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Shyness

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	12.3460	12.3077	12.3077	16.63	0.000
Treatment	1	0.0695	0.0931	0.0931	0.13	0.724
Time	1	0.6293	0.6371	0.6371	0.86	0.356
Treatment x Time	1	0.6261	0.6261	0.6261	0.85	0.361
Error	76	56.2381	56.2381	0.7400		
Total	80	69.9090				

Table E13
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Confusion

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	8.3874	8.7739	8.7739	9.66	0.003
Treatment	1	0.3846	0.3318	0.3318	0.37	0.547
Time	1	0.0739	0.0721	0.0721	0.08	0.779
Treatment x Time	1	0.2904	0.2904	0.2904	0.32	0.573
Error	76	69.0443	69.0443	0.9085		
Total	80	78.1806				

Table E14
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Physiological Activation

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	9.2354	8.0203	8.0203	11.30	0.001
Treatment	1	0.6724	0.6013	0.6013	0.85	0.360
Time	1	1.2894	1.3139	1.3139	1.85	0.178
Treatment x Time	1	3.0055	3.0055	3.0055	4.23	0.043*
Error	76	53.9583	53.9583	0.7100		
Total	80	68.1610				

Note. * Denotes significant at .05 level

Table E15
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Wants More

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	10.5977	9.6008	9.6008	11.62	0.001
Treatment	1	0.1771	0.1789	0.1789	0.22	0.643
Time	1	0.0009	0.0009	0.0009	0.00	0.974
Treatment x Time	1	0.0017	0.0017	0.0017	0.00	0.964
Error	76	62.7782	62.7782	0.8260		
Total	80	73.5556				

Table E16
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Postspeech Activation

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	8.915	7.807	7.807	6.99	0.010
Treatment	1	0.591	0.490	0.490	0.44	0.510
Time	1	1.997	2.027	2.027	1.81	0.182
Treatment x Time	1	3.027	3.027	3.027	2.71	0.104
Error	76	84.935	84.935	1.118		
Total	80	99.465				

Table E17
Two-Way Analysis of Covariance for Treatment Condition, Speaking Time on Environmental Threat

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Covariate	1	14.1916	12.6434	12.6434	13.50	0.000
Treatment	1	0.4238	0.4397	0.4397	0.47	0.495
Time	1	0.0002	0.0003	0.0003	0.00	0.986
Treatment x Time	1	0.2358	0.2358	0.2358	0.25	0.617
Error	76	71.1733	71.1733	0.9365		
Total	80	86.0247				

Table E18
Analysis of Variance for Differences Between Ethnic Backgrounds on Overall PRCA-24

Source	DF	SS	MS	F	p
Ethnic	2	3262	1631	3.99	0.023*
Error	74	30235	409		
Total	76	33498			

Individual 95% CIs For Mean
Based on Pooled StDev

Level	N	Mean	StDev	------+---------+---------+---------+
1	33	61.67	20.12	(------*------)
2	20	69.05	21.86	(--------*--------)
3	24	76.96	18.89	(-------*-------)
				------+---------+---------+-------- - -+

Table E19
Analysis of Variance for Differences Between Ethnic Backgrounds on Dyad

Source	DF	SS	MS	F	p
Ethnic	2	432.3	216.1	7.24	0.001*
Error	74	2207.8	29.8		
Total	76	2640.1			

Individual 95% CIs For Mean
Based on Pooled StDev

Level	N	Mean	StDev	---+---------+---------+---------+---
1	33	13.212	4.820	(-----*-----)
2	20	14.900	6.146	(-------*-------)
3	24	18.750	5.697	(-------*------)
				---+---------+---------+---------+---

Note. The four ethnic groups are: 1 = Whites, 2 = Blacks, 3 = Asians

* Denotes significant at .05 level

Table E20
Analysis of Variance for Ethnic Differences on Overall State Anxiety

Source	DF	SS	MS	F	p
Ethnic	2	7.481	3.740	8.95	0.000*
Error	74	30.915	0.418		
Total	76	38.395			

Individual 95% CIs For Mean
Based on Pooled StDev

Level	N	Mean	StDev	--+---------+---------+---------+----
1	33	1.9545	0.6220	(------*-----)
2	20	1.9953	0.6863	(-------*-------)
3	24	2.6419	0.6455	(------*-------)
				--+---------+---------+---------+----

Note. 1 = White, 2 = Black, 3 = Asian
* Denotes significant at .05 level

Table E21
Analysis of Variance for Ethnic Differences on Pre Speech

Source	DF	SS	MS	F	p
Ethnic	2	8.99	4.49	3.07	0.052*
Error	74	108.20	1.46		
Total	76	117.19			

Individual 95% CIs For Mean
Based on Pooled StDev

Level	N	Mean	StDev	-----+---------+---------+---------+-
1	33	2.212	1.384	(------*------)
2	20	2.050	1.317	(--------*--------)
3	24	2.875	0.779	(-------*-------)
				-----+---------+---------+---------+-

Table E22
Analysis of Variance for Ethnic Differences on Shyness

Source	DF	SS	MS	F	p
Ethnic	2	12.846	6.423	8.69	0.000*
Error	74	54.697	0.739		
Total	76	67.542			

Individual 95% CIs For Mean
Based on Pooled StDev

Level	N	Mean	StDev	-------+---------+---------+---------
1	33	0.9924	0.8256	(-----*-----)
2	20	1.0875	0.9675	(-------*------)
3	24	1.9062	0.8103	(------*------)

-------+---------+---------+---------

Table E23
Analysis of Variance for Ethnic Differences on Confusion

Source	DF	SS	MS	F	p
Ethnic	2	14.434	7.217	9.09	0.000*
Error	74	58.741	0.794		
Total	76	73.175			

Individual 95% CIs For Mean
Based on Pooled StDev

Level	N	Mean	StDev	--------+---------+---------+--------
1	33	1.5227	0.8758	(-----*------)
2	20	1.5250	0.9898	(------*-------)
3	24	2.4583	0.8231	(------*------)

--------+---------+---------+--------

Note. 1 = White, 2 = Black, 3 = Asian
* Denotes significant at .05 level

Table E24
Analysis of Variance for Ethnic Differences on Physiological Activation

Source	DF	SS	MS	F	p
Ethnic	2	7.539	3.770	4.72	0.012*
Error	74	59.122	0.799		
Total	76	66.661			

Individual 95% CIs For Mean
Based on Pooled StDev

Level	N	Mean	StDev	------+---------+---------+---------+
1	33	1.2970	0.8720	(------*-------)
2	20	1.3800	0.9903	(---------*--------)
3	24	2.0000	0.8382	(--------*--------)
				------+---------+---------+---------+

Table E25
Analysis of Variance for Ethnic Differences on Post Speech Activation

Source	DF	SS	MS	F	p
Ethnic	2	9.73	4.87	4.30	0.017*
Error	74	83.80	1.13		
Total	76	93.53			

Individual 95% CIs For Mean
Based on Pooled StDev

Level	N	Mean	StDev	----------+---------+---------+------
1	33	1.402	1.162	(------*------)
2	20	1.487	1.146	(---------*--------)
3	24	2.198	0.824	(--------*--------)
				----------+---------+---------+------

Note. 1 = White, 2 = Black, 3 = Asian
* Denotes significant at .05 level

Table E26
Analysis of Variance for Ethnic Differences on Environmental Threat

Source	DF	SS	MS	F	p
Ethnic	2	15.202	7.601	8.08	0.001*
Error	74	69.626	0.941		
Total	76	84.828			

Level	N	Mean	StDev	Individual 95% CIs For Mean Based on Pooled StDev
1	33	0.8889	0.8885	(------*------)
2	20	1.1333	1.0111	(--------*-------)
3	24	1.9167	1.0414	(-------*-------)

---------+---------+---------+-------

Note. 1 = White, 2 = Black, 3 = Asian
* Denotes significant at .05 level

Table E27
Qualitative Data on Treatment Effectiveness by, Instructor, Day/Night Class, and CA Level

Instructor #1 Day Class—Treatment

CA Levels	Typical Feelings About Presenting	Treatment Was Effective
HCA	Very nervous, felt as if I was loosing my voice, forget almost everything I had memorized, change colors.	Yes, while exercising I felt my fear had gone.
HCA	[no response]	It did. It made me more relaxed and comfortable.
HCA	Nervous, shy, tense	Not really—When my eyes were closed I couldn't get away from the nervous and tense feelings—this is when they seemed to grow stronger.
HCA	[no response]	It did, it made more relaxed and comfortable.
HCA	[no response]	yes
HCA	I felt really nervous and for about a week I would have nightmares about ii. Right before I would feel very hot and sick to my stomach.	Yes, made me laugh at first which relaxed me, then it calmed me down.
HCA	[no response]	Not really
MCA	Nervous. Shy.	Yes.
MCA	I was very nervous but after I started to talk I calmed down a little bit. I forgot most of the things that I was planning to say.	Actually the exercise helped me a lot but my anxiety still there and I think it normal for a person who has never given a speech.
MCA	[no response]	NO!
MCA	I felt OK, nervous at first but because of the nature of the presentation it was not too bad.	Yes it helped me regroup and prepare to do it.
MCA	[no response]	Yes, it made me relax and have confidence in presenting my speech.
LCA	I am usually comfortable speaking in front of a class but I do get nervous immediately before my presentation or performance for an audience.	YES
LCA	[no response]	Not really, I was already excited about giving the speech and doing a good job.
LCA	[no response]	Not sure. It certainly didn't hurt.

CA Levels	Typical Feelings About Presenting	Treatment Was Effective
LCA	Well I did drama all through Middle School and HS. When I was on stage w/others I was nervous before the show, but when I did monologues I was nervous, but not anymore than when I was going w/ a group	Yes it helped me relax even when I entered the classroom.
LCA	Fine, I was very familiar with the subject matter.	Yes the aerobics was great.
LCA	Fine—it was for my peers	It don't think so since I wasn't that nervous anyway until I got up to the podium.

Instructor #1 Night Class—Control

CA Levels	Typical Feelings About Presenting	What Could Help in Calming Nerves
HCA	I was obviously nervous. I had little trouble organizing my ideas as I was speaking. I shook when I spoke before a class.	Practice more in front of small group.
HCA	[no response]	Deep breath
HCA	[no response]	Not being timed or graded.
HCA	O.K.	Maybe more practice in front of someone.
MCA	[no response]	If I had more opportunity to give speeches I would become more relaxed.
MCA	I felt very nervous & shaky in the beginning of a speech.	[no response]
MCA	[no response]	[no response]
MCA	[no response]	Be more patient. Just wait my turn it will come soon another.
MCA	[no response]	[no response]
MCA	[no response]	[no response]
MCA	I was thrilled w/ the opportunity because I knew the subject well. Although I found I was a little nervous.	[no response]
MCA	If I'm familiar with the subject I'm a little nervous, but once I'm into the presentation I become relaxed also if my audience is familiar.	[no response]

CA Levels	Typical Feelings About Presenting	What Could Help in Calming Nerves
MCA	[no response]	Drawing out stronger transitions between subjects.
MCA	Preparation is the key. Nervousness and queasy stomach were ever present. I begin by common nervousness i.e. blushing, light stammering or running on of words, sweaty palms.	Better preparation and organization of materials, props presented.
MCA	[no response]	Not making the speech!! I don't mind talking w/in a group discussion but I don't feel confident being at the front a group.
LCA	Nervous in a couple of instances. Largely due to the positions held by members of the audience at my company.	More rehearsal, not time limit—would allow a more relaxed and natural flow of information leading to a logical ending point.
LCA	[no response]	More experience speaking in front of the group.
LCA	Excited, nervous	no reply
LCA	[no response]	More time to present
LCA	[no response]	More practice in front of people.
LCA	[no response]	[no response]
LCA	Anxious, nervous and a little sick to my stomach.	[no response]

Instructor #2 Day Class—Control

CA Levels	Typical Feelings About Presenting	What Could Help in Calming Nerves
HCA	[no response]	Speaking the language very well.
HCA	Concerned about making mistake. Wondering if I was being foolish wondering what they thought. Feeling inadequate and artificial.	[no response]
HCA	Nervous and tense afraid of messing up and looking stupid.	More practice in front of others
HCA	[no response]	[no response]
HCA	Shy and afraid	[no response]
MCA	Don't mind giving a presentation	[no response]

CA Levels	Typical Feelings About Presenting	What Could Help in Calming Nerves
MCA	Classroom presentation was a little more difficult because I was not a subject I had known for years.	[no response]
MCA	[no response]	[no response]
MCA	At the beginning of my speech, I am kind of nervous but after awhile I become comfortable and I feel always talking to one person after a few minutes.	I didn't feel anxious, except that English is my second language
MCA	[no response]	[no response]
MCA	Fear & nervous, not interesting in the public presentation.	[no response]
MCA	[no response]	Getting it over with
MCA	I had no chance to do it. But to me I feel very, very nervous to make a presentation before an audience because of my English problems and also because I have of experience for it at all.	[no response]
MCA	Very nervous (explained) technical material to non-technical audience.	More practice on my part.
MCA	[no response]	[no response]
LCA	I performed for audition in plays while I was at school. I had no fear of speaking in front of a large crow. If flowed well when I was on stage.	[no response]
LCA	I felt good about it because I got a good grade.	[no response]
LCA	Sometimes nervous depending on the size of my audience & who is in the audience.	[no response]

Instructor #2 Night Class—Treatment

CA Levels	Typical Feelings About Presenting	Treatment Was Effective
HCA		Yes, it helped me a little bit.
HCA	[no response]	Yes!
HCA	Started out nervous and dry mouthed but knew my material well and settled down making what I believed to be a good presentation.	Didn't really help I was 12th giving the speech—too long before.

CA Levels	Typical Feelings About Presenting	Treatment Was Effective
HCA	[no response]	Yes, It did help me to become calm and relaxed. Not as nervous as before.
HCA	Scared not very secure	No
HCA	[no response]	No, it didn't, it made me dizzy and felt tired than before.
HCA	[no response]	Yes it helps—good diversion.
HCA	I felt very nervous and when I began to speak, I forgot a lot of facts that I do know and I also felt kind of numb.	Yes, but I was first. Some of my anxiety was gone. Thanks.
HCA	[no response]	[no response]
HCA	nervous	No, it made the speech become too important.
MCA	[no response]	Not really because I already know how it would be like giving a speech in front of the class from the previous speeches.
MCA	[no response]	Yes it did.
MCA	I spoke in front of Arlington County Board and at Public Transportation in Fairfax	Yes it made me more relaxed
MCA	[no response]	No increased anxiety by prolonging the time before the speech.
MCA	[no response]	Yes
MCA	At that particular moment nervous	Yes the exercise relaxed my mind.
MCA	[no response]	Yes, it helped me to relax and be confident. While we were thinking about our project.
MCA	[no response]	Yes. Very relaxing, though I felt some of the verbal part was a bit extreme.
MCA	Very good. I must speak in front of groups often.	Yes, I grew up w/ these exercises and always enjoy them. I did not practice exercises prior to their speeches, I noticed a difference before and after this speech.

CA Levels	Typical Feelings About Presenting	Treatment Was Effective
MCA	[no response]	[no response]
LCA	I made none just because I didn't get a chance to make one. Whether I will be able to make one or not, I don't know yet. I have to be put to the test.	Yes it did.
LCA	n/a	No because I had a negative attitude about it to start with. I like to get things over with. I wanted to do those things then I would have have on my own.
LCA	Work related speeches to co-workers. The speeches were informative on new procedure during administrative re-structuring	I believe the 15 minute exercise was extremely beneficial, it helped to reduce my stress and minimize my anxieties from having to give a speech before a class.

VITA

Brenda Lewis-Holmes earned her Bachelor of Arts in Speech and Drama from Radford University in 1972. In 1976, Howard University awarded Brenda a Master of Arts in Speech Communication.

Brenda had experience instructing in Parks and Recreation, and at Hagerstown Junior College before joining the faculty of Northern Virginia Community College in 1980. At present she is in charge of the Drama program within the Division of Visual and Performing Arts at NVCC, Alexandria campus. Brenda has been active in a number of theatre and speech associations.