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**An exercise videotape for the older adult: Production,
evaluation and recommendations**

Zacanti, Marcella Annette, M.A.

San Jose State University, 1992

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**AN EXERCISE VIDEOTAPE FOR THE OLDER ADULT:
PRODUCTION, EVALUATION AND RECOMMENDATIONS**

A Project Report

Presented to

**The Faculty of the Department of Human Performance
San Jose State University**

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Annie Zacanti

December 1992

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ABSTRACT

AN EXERCISE VIDEOTAPE FOR THE OLDER ADULT: PRODUCTION, EVALUATION AND RECOMMENDATIONS

by Annie Zacanti

Research supports the theory that older adults who lead an active lifestyle may enjoy greater life satisfaction than their sedentary counterparts.

Although exercise videotapes are popular with the general population, the use of videotape as an instructional tool with older adults has not been well documented. It was the purpose of this project to produce, implement and evaluate a chair-exercise videotape for older adults which was used in conjunction with an instructor's intervention and physical correction of erroneous movements.

The chair-exercise videotape was produced by the researcher especially for an older adult population. The exercises emphasized smooth, non-ballistic stretching, and gross motor control.

The subjects evaluated the videotape by using a 5-point Likert scale. A mean score of 3.0 or greater indicated a favorable response toward the use of the videotape. The subjects' evaluations indicated a favorable response toward the videotape, with an overall mean score of 4.22.

ACKNOWLEDGEMENT

I would like to thank the people at De Anza College Television Center who helped make the video look so professional. I would also like to thank Nancy, Shirley and Sandi for their guidance and support through what became the mother of all graduate projects. Finally, to my husband who gave me the incentive I needed to finish this project: a baby.

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CHAPTER ONE

Introduction

Each year the number of Americans who become older adults, generally accepted as those persons over age 65, increases (Heitmann, 1982). By the year 2000, approximately 40 million Americans will be over age 65; of that number, 44% will be over 75 years of age (Heitmann, 1982). Our society has both a moral and an economic obligation to ensure a vital lifestyle for its older adults. In addition, the physiological and psychological health of this population must be maintained (Heitmann, 1982). Improving the quality of life for today's older adults may allow future generations to enjoy a more satisfying life as well (Payne & Isaacs, 1991).

Gerontology research has only recently begun in the areas of physical fitness (Thornton & Collins, 1986) and motor learning (Blair, Kohl & Powell, 1987; Payne & Isaacs, 1991; Thornton & Collins, 1986). Research in educational gerontology is a growing field and will be important for many years to come (Ager, 1986; Brady, 1986). Enrollment of older adults participating in adult education in the California Community College system is on the rise (L. Paulson, personal communication, October 10, 1989). Given that the population of older adults is rising in general, it can be assumed that community colleges and adult education programs throughout the country will increase enrollment as well. To meet the demands of this changing population, it is imperative that physical educators find the best ways to serve older adult students effectively (Brady, 1986; Heitmann, 1982).

Recent studies indicate that physical exercise with the older adult population is physically beneficial (Blair, Kohl, Paffenbarger, Clark, Cooper & Gibbons, 1989; Blair et al., 1987; deVries, 1970; Paffenbarger, Hyde, Wing, & Hsieh, 1986; Teague, 1989;

Thornton & Collins, 1986). Through exercise, older adults can obtain many of the same physiological and psychological benefits as do younger persons, only they are not as pronounced (Payne & Isaacs, 1991; Ridders, 1986). In addition, the Centers for Disease Control (CDC) have completed a review of the 1990 Objectives on Physical Fitness and Exercise and Recommended Objectives for the year 2000 (Blair et al., 1987); the CDC recommendations include those for persons over age 65.

Videotaped modeling, performed by either a peer or an instructor, is a widely accepted teaching method (Gould & Roberts, 1982). Videotaped modeling in a classroom may allow for an increase in haptic contact between the teacher and student, which has shown to be beneficial to the older adult student (Howard, 1988).

Data on the use of videotaped instruction of physical education with older adults are not well documented (DeBenedette, 1987; C. Sherrill, personal communication, April 3, 1991). The body of knowledge in gerontology education suggests that those students who participate in a physical education program may lead a more satisfying life than those who do not participate (McConatha & McConatha, 1989). Physical education is an integral part of any well-rounded education program. As such, when one considers the importance of health maintenance throughout the aging process, physical education may be the most vital component of the entire curriculum.

Statement of the Problem

The initial idea for this project came from the continual problems realized through six years of teaching a chair-exercise class for older adults for Foothill College in Los Altos Hills, California. The basic problem was how to correct a student's off-task behavior while simultaneously maintaining class continuity. When the student does not correctly model the instructor's exercise (off-task behavior), the instructor should attempt to correct the response. If verbal intervention alone can not correct the response, the instructor may

use physical intervention as well. The problem arises when the other students do not understand why the instructor is no longer exercising. While the instructor physically corrects one student's error, the other students suddenly lose their exercise model, and many will stop exercising. The students need a continuous exercise model as well as an instructor or classroom supervisor to make the inevitable physical corrections (interventions). An older adult exercise videotape, to be used in a classroom environment with an instructor, seemed a plausible option. The videotape would provide a continuous exercise model, while allowing the instructor to have physical intervention with the students, thereby maintaining classroom continuity.

Statement of the Purpose

The purpose of this project was to produce, implement and evaluate a chair-exercise videotape for the older adult, which was used in conjunction with an instructor's physical intervention and correction of erroneous movements. Aspects of the videotape project's quality and utility was evaluated by 29 older adult subjects using a 5-point Likert rating scale. The Likert rating scale evaluated the subjects' attitudes toward the use of an exercise videotape in assisting the instructor in a classroom environment.

Delimitations

The delimitations of this project were as follows:

1. The sample of older adult volunteers were experienced in chair-exercise.
2. The older adult population was confined to sighted male and female subjects over the age of 60.

Limitations

The limitations of this project were as follows:

1. Subjects had voluntarily enrolled in an exercise class.
2. Because of differences in vision between the subjects, the visual acuity of the

videotape may not have been precisely the same for every subject.

3. Subjects may not have been representative of a larger population.
4. Some subjects may have had more experience with exercise programs than others.
5. Subjects may have mild hearing loss.

Statement of Hypothesis

The hypothesis of this project was that the subjects will have demonstrated a positive attitude toward the use of an exercise videotape in assisting an instructor in a classroom environment, thus yielding a mean attitude score greater than 3.0 on a 5-point Likert rating scale.

Definitions

The researcher has defined the following terms for the purpose of this project.

Chair-exercise. An exercise or group of exercises performed while sitting in a chair.

Corrective auditory intervention. Verbal information delivered by the instructor to the subject that is used to a correct response.

Corrective physical intervention. Information delivered by the instructor to the subject that corrects a response through means of touch.

Exercise-experienced older adult. An older adult who has participated in one or many forms of exercise.

Exercise-neophyte older adult. An older adult who has not participated in any form of exercise.

Off-task behavior. The behavior of the subject that is inappropriate to a particular situation; the incorrect response.

Older adult. Male and female adults over the age of 60.

Older adult exercise class. An exercise class consisting of appropriate movements adapted for adults over the age of 60.

On-task behavior. The behavior of the subject that is appropriate to a particular situation; the correct response.

Positive auditory intervention. Verbal praise delivered by the instructor to the subject about an exercise response.

Positive haptic intervention. Praise delivered by the instructor to the subject through means of touch.

CHAPTER TWO

Review of Literature

Demographic Projections

The life expectancy of the average American has increased. By the year 2000, almost 40 million people will be over age 65 and by the year 2040 that figure will climb to 69 million (Heitmann, 1982). To put those figures in perspective, one must realize that in 1980 it was estimated that the population over age 65 was 26 million.

Older Adult Education

Older adult education programs promote the physical, psychological and social well-being of the older adult. Enrollment of older adults in the California Community College system is increasing (L. Paulson, personal communication, October 10, 1989). Due to this increase in demand, it is imperative that educators find the most effective methods to enhance the learning of older adults. Physical educators must realize what aspects of physical fitness are important for older adults, and design programs and courses that reflect those needs. The current body of knowledge in older adult education suggests that older adults are participating in learning programs for the following reasons: (a) to learn new skills that will help them contribute to society; (b) for social contacts; and (c) to find a way to stay active following retirement (Brady, 1986).

It is important in any educational setting, whether the students are young or old, that the instructor gears the program to match the abilities of the students. Three important features of any exercise class are (a) that tasks chosen are appropriate for the particular student population (Siedentop, 1983), (b) that students are participating in a safe class climate (Siedentop, 1983), and (c) that students routinely receive haptic (touch) and auditory (verbal) positive and corrective feedback (Galbraith & James, 1986).

Exercise, Activity and Life Satisfaction

According to activity theory (Havighurst & Albrecht, 1953), social activity is the most important component of a well-adjusted and contented older adult. Activity theory posits that older adults who maintain high levels of activity will lead a more satisfying life than those who do not stay active. A review of 30 years of research on aging and activity supports the positive relationship between exercise and life satisfaction (Larson, 1978). In addition, findings by Larson (1978) indicate a high correlation between poor health and lower life satisfaction. It has been suggested that older adults who exercise may lead more satisfying lives than those who do not exercise (McConatha & McConatha, 1989). McConatha and McConatha (1989) compared the relationship between life satisfaction and wellness of older adults. The instruments used were the Life Satisfaction Index (Neugarten, Havighurst & Tobin, 1961) and the Self-Responsibility for Wellness Measure (McConatha & McConatha, 1989). The findings of this study revealed a high, positive correlation between the two variables, life satisfaction and wellness ($N = 167$, $r = .62$, $p < .0001$). Therefore, voluntary participation in an exercise program may enhance the life satisfaction and well-being of an older adult.

The 1990 Objectives for Physical Fitness and Exercise and Recommended Objectives for the Year 2000 include goals for persons over age 65 (Blair et al., 1987). Specifically, by 1990, it was recommended that 50% of adults 65 years of age and older should be engaging in appropriate physical activity, e.g., regular walking, swimming or other aerobic activity. In addition, by 2000, 50% of adults 65 years of age and older should be participating in physical activity at least as vigorous as a sustained, slow walk 3 or more days per week, 30-minutes per session; and directly relating to this study, by 2000, 50% of adults 65 years and older should be participating 3 or more times per week for 30-minutes or more per session in activities designed to promote or maintain flexibility, ambulatory

skills, arm and hand strength, or other skills of daily living. The Department of Health and Human Services (1980) supports the previously mentioned objectives as well.

There is some disagreement in the literature as to the importance of adhering to the previously listed objectives (Herbert & Teague, 1989; Teague, 1989). Teague (1989) states that the aforementioned list of objectives is too rigid. It is recommended that older adults should participate in activities (not to be confused with physical exercise) that they enjoy, the simple objective being to mobilize sedentary older adults (Teague, 1989).

Benefits of Older Adult Exercise

deVries (1970) investigated the physiological responses of 112 adult men aged 52 to 87 ($M = 69.5$) to 6-, 18-, and 42-weeks of physical exercise. The subjects performed calisthenics, jogging or walking, static stretching and aquatics for 1-hr, 3 sessions per week. Significant improvements occurred in each group, regardless of the number of weeks of participation. The most significant findings were associated with the oxygen transport capacity. Oxygen pulse and minute ventilation at a heart rate of 145 b.p.m. increased by 29.4% and 35.2%, respectively. In addition, vital capacity improved by 19.6%. deVries (1970) concluded that older men do have a greater physical work capacity than scientists had previously imagined, and he adds that trainability benefits are not affected by previous exercise habits.

Sidney and Shephard (1978) observed the responses to endurance training of 42 previously sedentary subjects. The male and female subjects ranged in age from 60 to 83 years. The exercise program consisted of walking 1-hr, 4 times per week. Each subject participated for 14-weeks, while 22 subjects continued for 1 year. Data were analyzed using a 2 x 2 analysis of variance design, with frequency and intensity of activity as independent variables. Post-training treadmill measures showed an overall gain of 24% of VO₂ max. The greatest increase of VO₂ max (29%) occurred with the high-intensity,

high-frequency group. Additional data included a faster recovery of heart rate following sub-maximal exercise and an increase in the distance covered in a 12 minute walk/run (Sidney & Shephard, 1978). These findings support the position that through regular exercise, older adults can benefit from many of the same physiological adaptations as do younger persons.

Further study indicates an increase in longevity among physically active men (Paffenbarger et al., 1986). The study included 16,936 Harvard alumni aged 35-74 years. Reportedly, 1,413 alumni died during the 12-16 years of follow-up (1962-1978). Data were collected by a survey and included questions pertaining to amounts of walking, stair climbing, sports and yard work. Data results suggest that men who burned more than 2,000-kcals per week as a result of exercise lived longer than their colleagues who burned less than 500-kcals per week while exercising. Exercise reportedly had an inverse relationship to total mortality due to cardiovascular or respiratory causes. It was concluded that by the age of 80, an actively exercising male could expect an additional one to two years of life when compared to his sedentary colleagues (Paffenbarger et al., 1986).

A 1989 longitudinal study of exercise and longevity reports that even moderate amounts of exercise can add years to human life (Blair et al., 1989). The data revealed that the higher the fitness level, the lower the death rate, after age adjustment. The researchers of the Institute for Aerobics Research (Blair et al., 1989) studied 10,224 males and 3,120 females ($N = 13,344$) during 1970 to 1981. The average follow-up was eight years. Physical fitness was measured by a maximal treadmill test. The subjects were grouped into five categories, from least to most fit. The results consistently showed age-adjusted, all-cause mortality rates declined across the five physical fitness categories. It was concluded that higher levels of physical fitness may delay all-cause mortality due to lowered rates of cardiovascular disease and cancer. There appears to be strong evidence

to suggest that physical exercise not only contributes to quality of life, but quantity of life as well (Blair et al., 1989).

Videotape Instruction

The benefits of older adult videotape instruction in physical education are not yet documented (DeBenedette, 1987; C. Sherrill, personal communication, April 3, 1991). An effective exercise videotape is one that addresses the needs of a specific population. It has been stated by DeBenedette (1987) that motivation to use a videotape will increase if the videotape is designed for a specific population; the same may be true for the older adult, as well (DeBenedette, 1987). An effective older adult videotape should offer proper instruction, without being "slick" (DeBenedette, 1987). The camera angles should change to enhance each exercise, while at the same time decreasing any extraneous background activity. There are a vast quantity of exercise videotapes marketed for use by older adults (S. Kovach-Long, personal communication, September 16, 1991). Older adult exercise videotapes are generally marketed for use at home. Older adult videotapes may be used in a group setting, such as in a residential care facility. Exercise videotapes for older adults may show either a young adult model, an older adult model or both. A number of exercise videotapes for older adults were reviewed by the author prior to this project. A list of these videotapes is included in Appendix A. The older adult videotapes currently available to the general public, such as the those mentioned in Appendix A, were not suitable for use in this project because of they lacked content validity. Many of the exercises chosen for use in these videotapes were too advanced, or even dangerous for many newly exercising older adults to attempt. In addition, many of the exercise videotapes previewed performed exercises while standing, which limited the number of older adults who could benefit from the videotape. The videotapes seemed to be more of a showcase for extremely fit older adult models to "strut their stuff" and were not intended

for use by the average older adult; therefore the author felt the need to produce a videotape specifically designed for the average older adult who may not be experienced with exercise.

Effective Learning Environment

Siedentop (1983) states that the three main variables of an effective learning environment are high rates of on-task behavior among students, motor tasks appropriate to motor ability, and development of a safe, positive classroom climate. Ager (1986) supports the statement made by Siedentop by adding that the learning environment for an older adult must be familiar, orderly, physically and psychologically comfortable.

The benefits of touch with the older adult has been documented for over ten years (Baldwin, 1986). Touch can be used to comfort, reassure and praise. Touch can also be used as a means of active-assistive movement between the student and the teacher, as well as an appropriate way to correct improper movement patterns. Howard (1988) investigated the effects of touch with a nursing home population. Thirty female subjects over age 65 were selected; 16 subjects were touched, while 14 were not. The class session consisted of craft making. The subjects completed a questionnaire immediately after the craft making session. Responses to the questionnaire were statistically analyzed through a chi square. Results indicated that the touch group subjects showed stronger, more positive responses toward the task and the instructor than did the non-touched group (Howard, 1988).

Heitmann (1982) suggests that physical assistance in helping students perform a motor skill is helpful and contributes to the need for physical contact. It is also recommended that physical assistance be performed while standing behind the student (Ager, 1986). The student may concentrate on the kinesthetic feedback sensation while the teacher moves the limb through space. Thus, the instructor may enhance the learning

experience for the older adult student during exercise by using touch as a means of correcting motor patterns and to give praise (Ager, 1986; Heitmann, 1982).

Social Learning Theory

Social learning theory stresses the importance of learning through vicarious, symbolic and self-regulatory processes (Bandura, 1977). Social learning theory explains human behavior in terms of the reciprocal interaction between cognitive, behavioral and environmental variables. Bandura (1977) states that people are not controlled by their environment nor are they free agents who can do whatever they choose. People and their environment are reciprocal determinants of each other. This is the process referred to as reciprocal determinism (Bandura, 1977).

A key component of social learning theory is the phenomenon of observational learning, more commonly known as modeling. Modeling, through demonstration by the teacher or a peer, live or filmed, is widely accepted as a teaching method in physical education (Gould & Roberts, 1982). Bandura (1977) states that modeling is an observational learning method. The learner observes the behavior of the model, forms an idea of how the behavior is performed, stores the information through memory, and performs the task either immediately or on another occasion (Bandura, 1977).

According to Bandura (1977) there are four processes in modeling. The first process in modeling is the attention process. The observer must recognize and discriminate between the important features of the behavior. The second process is the retention process whereby the observer symbolically codes the observed information. The third process of modeling is the motor reproduction process. This is an important part of observational learning because the observer must have the motor skills necessary to reproduce the observed behavior. The fourth, and final process, is the motivation process. Although observers may have the necessary cognitive and motor skills to perform a given

behavior, they must also have the motivation to do so. Important conditions of the motivation process are (a) external reinforcements, (b) self-reinforcement and (c) vicarious reinforcement. If the observer fails to reproduce the modeled behavior it may be because of one or more of the following: (a) not observing the correct movement; (b) failure to correctly code the modeled event into memory; (c) inability to retain what was learned; and (d) lack of appropriate motor skills or inadequate reinforcement.

Modeling may occur through the use of a live model, or a film or videotape model (Bandura, 1977). There are no consistent conclusions regarding the superiority of a live versus a videotape model (Gould & Roberts, 1982). Gould and Roberts (1982) reviewed the research in the area of modeling. The following suggestions have been made to increase modeling effectiveness: (a) models should be highly able to perform the desired motor tasks; (b) models should be of the same gender and have similar characteristics as the observer; and (c) modeling should be combined with immediate actual participation by the observer (Gould & Roberts, 1982). The observer should attempt the motor skill immediately after the observation.

Theory-based Research

It has been suggested that future physical education research be theory-based (Christina, 1987; Reid, 1989; Stelmach, 1987). Specifically, Reid (1989) states the need for theory-based research with special populations, such as older adults. Christina (1987) describes three levels of motor learning research in physical education. Level 1 research is basic research, usually testing a hypothesis in a controlled laboratory setting (Christina, 1987; Reid, 1989). Level 3 research is used to find immediate solutions to classroom and sport problems, therefore is not concerned with theoretical relevance (Christina, 1987). Level 2 research is also theory-based, but has more direct relevance than level 1 research because it occurs in an applied setting (Christina, 1987 ; Reid, 1989). Level 2 research

may or may not test a hypothesis, and may or may not lead to direct problem solving (Reid, 1989). Christina (1987) recommends applied research at levels 2 or 3 with older adult populations. Videotaped instruction with older adults in an exercise setting is best examined through Level 2 research because its use develops theory-based knowledge appropriate for understanding the learning of practical skills in practical settings. Older adults in an exercise class, such as those in this project, are performing a practical skill in a practical setting.

Descriptive Research

Descriptive research is based on the idea that problem solving can occur through detailed observation, description and analysis (Thomas & Nelson, 1990). When initially studying a special population, one must attempt to describe subjects and setting first (Pyfer, 1986), hence the use of descriptive research to answer the question, "How do you know?" Descriptive research, when tied to a theoretical construct is an example of Christina's level 2 research (Christina, 1987; Reid, 1989).

An important aspect of descriptive research is to produce the most accurate, thorough description possible (Locke, 1989; Siedentop, 1989). Detailed descriptions of classroom behavior must be collected and analyzed (Locke, 1989). Locke (1989) also states that in descriptive research, analysis occurs simultaneously with data collection, not following.

Another essential component of descriptive research is that the researcher is used as the primary research instrument (Locke, 1989). Thus, the researcher must be judged as competent by the reader. As such, the background of the researcher may become a necessary part of the investigation. The researcher must maintain what Locke (1989) refers to as "controlled subjectivity."

There remains an increased need to succinctly report data results of descriptive research (Bain, 1989; J. R. Thomas, personal communication, September 27, 1989).

Descriptive research, combined with a quantitative reporting device, such as a systematic observation system, may be an appropriate way of knowing "What's going on in the gym?" (Siedentop, 1983; J. R. Thomas, personal communication, September 27, 1989).

Field research is a type of experimental methodology that is conducted in actual settings (Silva & Parkhouse, 1982). The most basic means of field research is naturalistic observation (Silva & Parkhouse, 1982). Naturalistic observation is a viable method of inquiry when the researcher is unable to manipulate an independent variable or randomly select subjects. Naturalistic observation relies on the carefully detailed event recordings of the subjects' behavior by the researcher.

Summary

The older adult population is increasing in such a way that by the year 2000, close to 40 million people will be over age 65 (Heitmann, 1982). Older adult physical educators must find the most effective methods to instruct this growing population (Brady, 1986). The physiological benefits of physical exercise for the older adult are well documented (Blair et al., 1989). Although exercise videotapes are popular with the general population, the use of videotape as an effective instructional tool with older adults has not been well documented in the field of physical education. Physical education research in the future should be theory-based if it is to contribute to the growing body of knowledge in the field (Reid, 1989). Descriptive research is historically implemented when initially investigating special populations, such as the older adult (Pyfer, 1986). Naturalistic observation is a viable technique for recording descriptive field research. The purpose of this project was to produce, implement and evaluate a chair-exercise videotape for older adults which was used in conjunction with an instructor's physical intervention and correction of erroneous movements.

CHAPTER THREE

Methods

The purpose of this project was to produce, implement and evaluate a chair-exercise videotape for older adults which was used in conjunction with an instructor's physical intervention and correction of erroneous movements. The method by which this was accomplished will be presented in the following discussion of (a) selection and description of subjects, (b) selection and description of videotape models, (c) selection and description of exercise program, (d) videotape equipment, (e) videotaping procedure, and (f) evaluation.

Selection and Description of Subjects

The subjects were 1 male and 28 female volunteers over the age of 60 who were students in a De Anza College, Cupertino, CA. older adult exercise class. The vision of the subjects was sufficient to adequately view the exercise videotape. Prior to viewing the videotape, all chairs were arranged so that the subjects would not impede one another while exercising. No subjects reported problems regarding the viewing of the television screen. The subjects had self-control of all four limbs of the body as well as the head and neck. All subjects completed an informed consent form (Appendix B) prior to initiation of the study.

Selection and Description of Videotape Models

The author served as an exercise model and the narrator as well. The videotape featured 3 female and 1 male older adults as the exercise models. The older adult models were chosen for their outstanding motor control and joint flexibility. The videotape models did not act as subjects for the project. Their only duty was to perform (to their greatest abilities) the exercises selected for use in the videotape. Each videotape model

signed an informed consent form as requested by San Jose State University (Appendix C). Each videotape model also signed a written consent form that allowed De Anza College (Appendix D) and the author (Appendix E) to use the videotape for non-commercial or commercial broadcast.

Selection and Description of Exercise Program

A panel of experts from the fields of human performance and older adult studies (Appendix F) selected the exercises to be used in the videotape. A pilot videotape of sample exercises and a critique sheet (Appendix G) was sent to each expert because of his or her expertise and experience in the area of older adult exercise. Each approved exercise from the pilot videotape must have received no less than 85% acceptance from the panel of experts to be included in the final videotape production. The researcher established the 85% approval rate prior to initiation of the project. The exercise program consisted of appropriate motor coordination and flexibility exercises involving the use of all four limbs of the body. The exercise program emphasized flexibility and motor coordination by using range of motion exercises without added resistance. Sitting in a firm, armless chair, the subjects performed each exercise to the best of their abilities, following the models in the exercise videotape. The author moved about the room, manually correcting the erroneous subjects, so as to assist them in proper exercise form.

Videotape Equipment

The videotape equipment which was used for this project was provided by De Anza College Television Center, Cupertino, California. The videotaping equipment consisted of three Sharp A1 cameras. Each camera shot simultaneously using Sony VO-5800 videotape. One camera shot a frontal view while the others, lateral views. The Chyron ACG were used to create graphics (captions) throughout the videotape. Videotape editing was done using a Sony RM-440 editing control unit. The audio portion of the

videotape was added from a CD to the final product only in the form of background music, so as not to interfere with verbal instruction. The final videotape product was transferred onto a 1/2 inch VHS videotape for subjects' evaluation purposes.

Videotaping Procedure

The De Anza College Television Center studio served as the location of the video taping. Chairs, background, floor covering and lighting was provided by said studio. The videotape models performed the 25-minute exercise session, in its entirety, one time. The camera crew and production staff had a copy of the videoscript (Appendix H) with instructions regarding specific camera shots. The production staff had permission to use their professional judgment as to the most beneficial camera angle to use throughout the taping. As three cameras were used throughout the taping, frontal and lateral shots were used to maximize the clarity of each exercise. Close-ups and full view shots were used when appropriate as well. Music was added where deemed proper, to the final product. Videotape graphics (captions) were used throughout the videotape. Graphics (captions) were used to relay important information to the subjects, such as the guidelines for proper exercise.

Evaluation

Evaluation of the videotape (Appendix I) was completed by the subjects immediately following the viewing of the videotape. The subjects stated their opinions of the videotape using a 5-point Likert (1932) rating scale. The statements pertained to possible impressions of the videotape. The Likert rating scale allowed an observer to state his or her impressions of a subject, text or videotape. Each point represented an answer on the scale. The points were, in order "strongly disagree," "disagree," "neutral," "agree," and "strongly agree." Points were valued one through five, with five, or "strongly agree" being the most favorable answer for a statement made in a positive fashion. For

statements posed in a negative fashion, the 5-point Likert rating scale was reversed so that point five represented "strongly disagree." An answer of "don't know" was assumed when the subject did not respond to a particular question. A point value was not associated with a response of "DK." The average score of each question together with the total score of the evaluation questionnaire was used to determine the subject's attitude toward the videotape. The subject's raw scores were summed and divided by the total number of statements, yielding the mean attitude score. If a mean score was greater than 3.0, then a favorable attitude toward the videotape existed.

CHAPTER FOUR

Results

The purpose of this project was to produce, implement and evaluate a chair-exercise videotape for the older adult to be used in conjunction with an instructor's physical intervention and correction of erroneous movements. As hypothesized, the subjects demonstrated a positive attitude toward the use of this videotape.

The 5-point Likert scale evaluation yielded a mean score greater than 3.0, thereby suggesting a favorable attitude toward the use of an exercise videotape in conjunction with an instructor's physical intervention and correction of erroneous movements. The subjects' overall mean attitude score was 4.22. Individual subject's mean scores ranged from 3.60 to 4.91 (Table 1). The mean attitude scores of each individual statement were favorable as well. The scores ranged from 3.55 to 4.43 (Table 1).

TABLE 1

5-POINT LIKERT SCALE RAW AND MEAN SCORES

		STATEMENT NUMBER											SUBJECT	
		1	2	3	4	5	6	7	8	9	10	11	M	SD
S U B J E C T N U M B E R	1	2	5	5	5	5	5	5	5	3	4	3	4.27	1.10
	2	5	5	2	3	4	4	5	4	4	4	3	3.91	0.94
	3	4	5	3	4		5	5	4	4	4		4.22	0.67
	4	4	4	4	4	4	4	4	4	4	4		4.00	0.00
	5	5	5	5	5	5	5	5	5	4	5	5	4.91	0.30
	6	5	4	4	4	4	3	2	4	4	4	4	3.82	0.75
	7	5	4	5	4	4		5		4	4	4	4.33	0.50
	8	5	5	5	4	5	4	4	5	5	5	4	4.64	0.50
	9	5	3	5	4	5	5	4	5		4		4.44	0.73
	10	5	4	5	4	4	4		5	5	5		4.56	0.53
	11	4	4	4	5	4		5	4	3	4	3	4.00	0.67
	12	4	4	4	4	4	4	4	3		3		3.78	0.44
	13	4	4	5	5	4	3	4	4		4		4.11	0.60
	14	5	5	5	5	5	3	1	5		5	5	4.40	1.35
	15	5	5	2	5	5	5	5	5	5	5	3	4.55	1.04
	16	4	4	4	4	2							3.60	0.89
	17	2	4	4	4	4	4	4	4	2	4	4	3.64	0.81
	18	5	5	5	5	5	4	4	5	5	5	4	4.73	0.47
	19	5	5	5	5	5	5	1	5	5	3	5	4.45	1.29
	20	4	4	4	4	5	5	5	4	4	4	3	4.18	0.60
	21	4	4	5	5	5	5	5	5	5	4	3	4.55	0.69
	22	5	5	5	5	5	3	4	5	5	4	3	4.45	0.82
	23	4	4	4	5	4	4	3	4	4	4	2	3.82	0.75
	24	4	4	4	5	5	4	4	4	5	4	3	4.18	0.60
	25	4	4	4	5	5	4	5	4		4		4.33	0.50
	26	5	5	4	3	4	4	4	4	5	5	3	4.18	0.75
	27	4	4	4	5	5	4	3	5	5	5	2	4.18	0.98
	28	4	5	4	4	4	4	4	3	5	5	5	4.27	0.65
	29	4	4	4	4	4	3	3	4	4	4		3.80	0.42
STATEMENT M		4.31	4.38	4.24	4.41	4.43	4.12	3.96	4.37	4.30	4.25	3.55		
STATEMENT SD		0.81	0.56	0.83	0.63	0.69	0.71	1.16	0.63	0.82	0.59	0.94		

ALL SUBJECTS	M	4.22
ALL SUBJECTS	SD	0.33

CHAPTER FIVE

Summary, Conclusions, and Recommendations

Analysis of the data suggested a favorable attitude existed in the subjects' toward the use of the exercise videotape in a classroom environment with older adults. The 11 statements and additional written comments from the subjects taken from the evaluation form will be discussed in this chapter. Recommendations for future projects will also be suggested.

Statements 1, 2 and 10 (Appendix I) addressed the question of the exercise information quality, visual and auditory, of the videotape. These statements scored favorably with means of 4.31, 4.38 and 4.25, respectively. The statements referred to the exercise guidelines shown at the beginning of the videotape as well as sound quality of the entire videotape. For example, written comments were positive regarding articulation of instructor, reminding subjects to exercise at their own pace, reminding subjects to breathe normally and stating benefits of each particular exercise.

Statement 3 addressed the question of the appropriateness of the clothing worn by each of the videotape models. This statement scored a mean of 4.24. Statement 12 allowed for the subjects to freely comment on any issues regarding the videotape. Many subjects expounded on Statement 3, by writing comments in Statement 12. The comments in Statement 12 concerning the clothing worn by the older adult models was positive because most were wearing light colored clothing. Responses addressing the instructor's clothing were mixed. There was no reported mean for this statement because the responses were written. Responses for Statement 12 were reported in percentages. Seven percent ($n = 2$) of the subjects stated that they only followed the instructor, while 17% ($n = 5$) of the subjects reportedly had trouble following the instructor due to her wearing dark colored pants and shoes.

Specifically, the background color was medium blue and the instructor's pants and shoes were black. This would suggest that instructors of older adult exercise programs should be sure of adequate contrast between their clothing and background colors in their classroom environment.

Statements 4 and 5 addressed the concept of peer modeling. Again, both scores were favorable, those being 4.41 and 4.43, respectively. Following Gould and Roberts' (1982) suggestions the videotape models were highly able to perform the motor tasks; videotape models had similar characteristics to the observers; and the modeling was combined with immediate actual participation by the observers.

Statements 6, 7 and 8 addressed the question of the selection of the exercise program, both content and length. The scores were favorable, reporting means of 4.12, 3.96 and 4.37, respectively. One written comment included a suggestion of alternating the arm and leg exercises more frequently. By doing two or three exercises in a row using the same muscle groups, some older adults may experience muscle fatigue. Depending on the exercise experience of the older adults involved, the instructor may need to adapt the program to meet the needs of those not as experienced with exercise. In this project only one subject reported having difficulty with the pace of the exercises, which suggests that the content and pace of the exercises was appropriate for this population. The instructor must always remember to remind the older adults to rest during exercise if they feel it is necessary. Another subject suggested the use of a foot rest for those older adults who can not easily reach the floor while sitting in a chair. This is a special concern for older adults because of the undue stress this may cause to the lower back. The author suggests the use of shorter, smaller chairs for those older adults of small stature. The feet should easily reach the floor, while the low back is supported by the chair.

Statements 9 and 11 addressed the issue of the use of the videotape with a classroom instructor to assist in correction of erroneous movements. The responses were favorable with means of 4.30 and 3.55, respectively. There were a high number of "don't know" ($n = 9$) and "neutral" ($n = 9$) responses to statement 11. The sum of "don't know" and "neutral" responses to statements 9 and 11 equaled 62% of the total number of responses. The author hypothesizes that this was due to the fact that the subjects were highly experienced with exercise, thereby little correction was necessary by the instructor. In this case, the subjects responses of "neutral" or "don't know" would be a satisfactory response. The author suggests future research projects using videotape which would compare older adults who are exercise neophytes (inexperienced), to those who are exercise experienced. The comparison of two such groups may increase the body of knowledge regarding the use of a videotape in conjunction with an instructor's physical intervention and correction of erroneous movements.

Another possible future research project might compare two groups of exercise neophytes, both exercising to the same videotape for a 6-week period. On the first day of the project, the researcher would not intervene to correct any errors committed by the subjects. The researcher would count the number of errors committed by each group on that first day of the project. For the remainder of the project, one group would receive physical intervention to correct erroneous movements, while the other would not. At the end of the 6-week project, the researcher would again count the number of erroneous movements committed by each group. The author hypothesizes that the group which received physical intervention while exercising to the videotape will have committed fewer errors than the group which did not receive physical intervention to correct erroneous movements. If this hypothesis is correct, this author

believes that with exercise neophytes, the presence of a qualified instructor is strongly suggested. An evaluation form, such as was implemented in this project, may also be administered to evaluate each groups attitude toward the use of the videotape.

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APPENDIX A

Videotape List

Armchair Fitness: An Aerobic Workout For Persons Of All Ages.

CC-M Productions, P. O. Box 15707, Chevy Chase, MD., 20815.

Dancin' Grannies. Dancin' Grannies, 10 Bay St., Suite 3,

Westport, CT., 06880.

Fitness Over 50. Health Tapes Inc., P. O. Box 47190, Oak Park, MI.,

48237.

Forever Fit Chair Exercise Video. 3752 Brookside Rd.,

Toledo, OH., 43406.

Get-Up and Go With Parkinson's Disease. Health Tapes Inc., P. O. Box

47190, Oak Park, MI., 48237.

More Alive. Mature Adult Corp., P. O. Box 31872, Aurora, CO., 80041.

Swing Into Shape. Department of Education, Lutheran Hospital, 1910

South Ave., La Crosse, WI., 54601.

APPENDIX B

AGREEMENT TO PARTICIPATE IN RESEARCH
SAN JOSE STATE UNIVERSITY

SUBJECT CONSENT FORM

RESPONSIBLE INVESTIGATOR: Annie Zacanti

TITLE OF PROTOCOL: An Exercise Videotape for the Older Adult:
Production, Evaluation and Recommendations.

I have been asked to participate in a research project that is investigating the attitudes of older adults toward the use of an exercise videotape as an instructional tool in the classroom. The results of this project should further our understanding of the possible usage of exercise videotapes with the older adult student. I understand that:

- 1) As a subject, I will be asked to participate in the exercise class that I am currently enrolled in at De Anza College. The project will consist of exercising to a 30-minute older adult chair-exercise videotape, one time only. After viewing and exercising to the videotape, I will be asked to evaluate the exercise videotape to the best of my abilities. The total time necessary for participation in this project shall be 35-40 minutes.
- 2) The possible risks of this project are the same as those involved while exercising to a live exercise model. Possible risks include discomforts associated with exercise such as increased heart and breathing rates, and muscle stretching.
- 3) There are no discernible benefits expected to come from this project other than those associated with exercising to a live exercise model.
- 4) The results from this project may be published, but any information from this project that can be identified with me will remain confidential and will be disclosed only with my permission or as required by law.
- 5) Any questions about my participation in this project will be answered by Annie Zacanti, at (415) 965-7936. Complaints about the research may be presented to Dr. Nancy Megginson at (408) 924-3014. For questions or complaints about research subject's rights, or in event of research-related injury, contact Serena Stanford, Ph.D. (Associate Academic Vice President for Graduate Studies & Research) at (408) 924-2480.
- 6) My consent is given voluntarily without being coerced; I may refuse to participate in this project or in any part of this project, and I may

withdraw at any time, without prejudice to my relations with San Jose State University or De Anza Community College.

7) I have received a copy this consent form for my file.

I HAVE MADE A DECISION WHETHER OR NOT TO PARTICIPATE. MY SIGNATURE INDICATES THAT I HAVE READ THE INFORMATION PROVIDED ABOVE AND THAT I HAVE DECIDED TO PARTICIPATE.

DATE

SUBJECT'S SIGNATURE

DATE

INVESTIGATOR'S SIGNATURE

APPENDIX C

AGREEMENT TO PARTICIPATE IN RESEARCH
SAN JOSE STATE UNIVERSITY

VIDEOTAPE MODEL CONSENT FORM

RESPONSIBLE INVESTIGATOR: Annie Zacanti

TITLE OF PROTOCOL: An Exercise Videotape for the Older Adult:
Production, Evaluation and Recommendations.

I have been asked to participate in a research project that is investigating the attitudes of older adults toward the use of an exercise videotape as an instructional tool in the classroom. The results of this project should further our understanding of the possible usage of exercise videotapes with the older adult student. I understand that:

- 1) As a videotape model, I will be asked to come to the De Anza College Television Center on April 3, 1992, at 9:00 a.m. The group will be videotaped performing the chair-exercise routine approved by a panel of experts in the field of older adult exercise. I will perform the 30-minute exercise routine once. If needed, I will perform the exercise routine again, with a 30-minute rest period between each routine. If I need more rest time, I will be granted such. I will sign a release form from De Anza College for commercial and non-commercial use of this videotape. I will also sign a model release form allowing Annie Zacanti the absolute right and permission to copyright, use and publish said videotape. If I participate as a videotape model, I will not be allowed to participate as a subject, thereby, I will not evaluate the videotape.
- 2) The possible risks of this project are the same as those involved while exercising to a live exercise model. Possible risks include discomforts associated with exercise such as increased heart and breathing rates, and muscle stretching.
- 3) There are no discernible benefits expected to come from this project other than those associated with exercising to a live exercise model.
- 4) Any questions about my participation in this project will be answered by Annie Zacanti, at (415) 965-7936. Complaints about the research may be presented to Dr. Nancy Megginson at (408) 924-3014. For questions or complaints about research subject's rights, or in event of research-related injury, contact Serena Stanford, Ph.D. (Associate Academic Vice President for Graduate Studies & Research) at (408) 924-2480.
- 5) My consent is given voluntarily without being coerced; I may refuse to participate in this project or in any part of this project, and I may withdraw at any time, without prejudice to my relations with San Jose State University or De Anza Community College.

6) I have received a copy this consent form for my file.

I HAVE MADE A DECISION WHETHER OR NOT TO PARTICIPATE. MY SIGNATURE INDICATES THAT I HAVE READ THE INFORMATION PROVIDED ABOVE AND THAT I HAVE DECIDED TO PARTICIPATE.

DATE

SUBJECT'S SIGNATURE

DATE

INVESTIGATOR'S SIGNATURE

APPENDIX D

DE ANZA COLLEGE

TELEVISION CENTER

PRODUCTION: _____

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RELEASE FORM

TO: De Anza College
21250 Stevens Creek Blvd
Cupertino, California 95014

&

I have agreed voluntarily to appear without compensation in a motion picture film or video tape produced by you.

You shall have the right to exhibit and televise said film or tape. As between you and me, the film or tape, all copies thereof and all rights therein shall be your sole and exclusive property.

You shall have the right and may grant others the right to disseminate, print and publish my name and likeness and biographical material in connection with the publicity and promotion of the film or tape but not for the direct endorsement of any product.

I hereby release and discharge you and your respective agents, employees, successors, assigns and licensees from any and all claims, liabilities and obligations of any kind or nature which may arise from my appearance or participation on the film or tape or any exhibition thereof.

I agree that you have no obligation to exhibit or televise my performance or otherwise use me on your film or tape.

Very truly yours,

(signed)

Date _____

(printed)

Address:

APPENDIX E

Author Model Release Form

I agree to be videotaped and grant Annie Zacanti, her legal representatives, assignees, those for whom she is acting, and those acting in her authority and permission, the absolute right and permission to copyright, use and publish said videotape.

I hereby release and discharge Annie Zacanti, her legal representatives, licensees, and assignees from any and all claims and demands arising out of or in connection with the use and publication of said videotape.

Date: _____

Signed: _____

Address: _____

APPENDIX F

PANEL OF EXPERTS

Mary Bennett, M. A., Instructor of Adapted Physical

Education, De Anza College, Cupertino, CA

Carol L. Christensen, Ph.D., F.A.C.S.M., Professor of Human

Performance, San Jose State University, San Jose, CA.

Jane M. Eckman, M. A., Instructor of Physical Education, De Anza

College, Cupertino, CA.

Ruth E. Haynes, B. S., Instructor of Adapted Physical

Education, West Valley College, Saratoga, CA.

Sandi Kovach-Long, M.T.R.S., Instructor of Older Adult

Studies, De Anza College, Cupertino, CA.

Richard Schroeder, M. S., Exercise Physiology Lab

Coordinator, De Anza College, Cupertino, CA.

Joan Worley, M. A., Instructor and Coordinator of Adapted

Physical Education, West Valley College, Saratoga, CA.

APPENDIX G

Dear

I am writing to you because of your knowledge and experience in the field of exercise for the older adult. I am a graduate student at San Jose State University and I am creating an exercise videotape specifically for the older adult. This videotape contributes towards the completion of my masters degree. I would appreciate your input in this endeavor.

Enclosed is a 30-minute pilot tape and a response sheet. The visual quality of the videotape should not concern you. The information I am seeking only concerns the set of exercises chosen for the videotape, and the opening and closing statements. The final videotape will be produced professionally with quality background, lighting and audio equipment. It will also use three or four older adult models exercising in chairs. The final version will show me introducing an exercise both verbally and visually, then cut to one of the models doing the exercise. Full body shots and zoom shots will be used accordingly.

Would you please watch this pilot videotape and make responses in the appropriate columns? The response sheet has been created to make this task as simple as possible. If you would then call me, I will make arrangements to pick up both the response sheet and the pilot tape. Your assistance in this project is greatly appreciated.

Very truly yours,

Annie Zacanti
Graduate Student, SJSU

CHAIR EXERCISE VIDEOTAPE RESPONSE SHEET

Please check the appropriate column and feel free to make any suggestions, such as a safer method of doing a given exercise, substitute exercises, omissions, aesthetics, duration of each exercise, or use of verbal cues. The exercises in the videotape are listed in numerical order. The verbal cue follows each number to assist you in identifying the exercise.

I. OPENING

(Introducing myself, the purpose of the videotape, do's and don'ts of exercise).

COMMENTS:II. EXERCISES:

	APPROVE? YES NO	COMMENTS:
1. Side to side	___ ___	
2. Hold side to side	___ ___	
3. Lean and hold	___ ___	
4. Trunk circles	___ ___	
5. Trunk Twist	___ ___	
6. 3-position low back stretch	___ ___	
7. Hamstring stretch	___ ___	
8. Toe touch/ calf stretch	___ ___	

	APPROVE? YES NO	COMMENTS:
9. Hamstring/Adductor "v" Stretch	___ ___	
10. Hip lifts	___ ___	
11. Knee-to-elbow	___ ___	
12. Diagonal Knee-to- Elbow	___ ___	
13. Tricep Stretch	___ ___	
14. Diagonal Tricep Stretch	___ ___	
15. Back Hold	___ ___	
16. Dips	___ ___	
17. Punching	___ ___	
18. Arm raises	___ ___	
19. Arm circles	___ ___	
20. 3-position arm extensions	___ ___	
21. Piano	___ ___	
22. Fingers to thumbs	___ ___	
23. Rowing	___ ___	
24. Shoulder shrugs	___ ___	

	APPROVE? YES NO	COMMENTS:
25. Swimming	___ ___	
26. Shoulder rolls	___ ___	
27. Knee-to-chest	___ ___	
28. Knee outward	___ ___	
29. Leg cross	___ ___	
30. Toe/heel lifts	___ ___	
31. Ankle range	___ ___	
32. Flutter/Scissor kicks	___ ___	
33. Bicycle (in final version, will be performed one leg at a time)	___ ___	
34. Running/sidestep in place	___ ___	
35. Kick from knee	___ ___	
36. Hip Ab/Ad	___ ___	
37. Kick from hip	___ ___	
38. Circles from hip	___ ___	
39. Neck stretches	___ ___	

III. CLOSURE:

(Reminding students to include exercise in their lifestyle,
thanking my exercise models and bringing the videotape to an
end)

COMMENTS:

IV. OVERALL COMMENTS:

APPENDIX H

Chair-Exercise with Annie Zacanti Script

<u>camera shot</u>	<u>spoken script</u>	<u>graphic</u>
straight on group shot	Hello, I'm Annie and this is chair-exercise. I hope you find this videotape to be safe and fun to use. Before we begin, let's review some of the guidelines for proper exercise.	<p>Exercise Guidelines</p> <p>Consult your physician before beginning any exercise program</p> <p>Use a sturdy chair with firm back support</p> <p>Exercise at your own pace</p> <p>Stretch your muscles slowly and hold the stretched position</p> <p>Use the back of the chair to support your lower back</p> <p>Stretch only until you feel your muscles pull, not until you feel pain</p>
straight on group shot	Now let's review some of the things that you do not want to do during exercise.	<p>Exercise don'ts</p> <p>Do not overwork-- stop exercising if you feel any pain, dizziness or have difficulty breathing</p> <p>Do not bounce while stretching your muscles</p> <p>Do not hold your breath while exercising</p> <p>Do not move your head or neck in a circular motion</p>

straight on group shot Now that we know what we should and should not do, the rest is easy. Just watch the exercise models and follow along. If you feel the need to rest, do so and catch up with us on the next exercise. Let's get started.

straight on Annie First I'd like for you to reach down towards the floor with your outstretched

Straight on # 4 Just go back and forth. Remember to warm up slowly. Just a few more seconds...and relax.

Straight on Annie Next I'd like for you to reach towards the floor in the same position, but we'll hold each position for a few seconds.

straight on # 1 You should feel all of the muscles along your trunk and waist slowly stretching. I won't tell you how many times to do an exercise, just do what you feel comfortable doing in the time allotted. Most of these exercises will be 20 seconds to 1 minute long. O K let's rest.

straight on Annie Now put your fingers together and reach up towards the ceiling as high as you can.

straight on # 3 now reach over to one side and hold. You should feel your arms, shoulders, and back slowly stretching. Now lean to the other side and hold again. Back to the other side and hold and a few more seconds and change sides, hold... and relax.

straight on Annie

Now put your hands together in the same position, but this time we'll do arm circles.

straight on #2

That's it, reach your hands down past your knees if you can. Do these slowly to protect your lower back. and let's change direction and do circles the other way. Reach up, around and down. Your arms don't have to be straight, just do your best. A few more seconds... and relax.

straight on Annie

Now let's sit up straight in your chair and slowly twist at the waist.

straight on # 2

This exercise stretches out the trunk. Again it's important to do these slowly to protect your lower back. This will firm up the muscles around your waist, ribcage and back. Keeping your stomach strong is important for good posture. A few more seconds...and take a rest.

straight on Annie

Next let's do some stretches for the low back and legs. First you may need to move forward in your chair so that your feet easily touch the floor. Your legs should be slightly bent and your feet even with the legs of the chair. Now with both hands on one knee, reach down toward your foot and hold that position.

straight on # 1

You don't have to touch your foot, if you can reach your ankle or shin that's fine too. Remember to breathe normally. Now bring your hands to the center, touching the floor and hold that. Now reach for the other foot. You should feel a stretch in your low back and behind your thigh. Just a couple seconds more and come on up.

straight on Annie

Next stay forward in your chair, bring your feet together and leave a slight bend in your knee. Now gently run your hands down your legs as far as your can.

straight on # 3

Hold that position. You're stretching out your low back and legs as well. Now come up and relax for a moment and lets reach down again. This time you may be able to reach farther because your muscles are warmed up. A few more seconds ... and come on up.

straight on Annie

Now let's slide one foot in and leave one foot out in front. Now while leaving your heel on the floor, turn your tow up toward the ceiling. Reach down with your hand and try to grab the toe of your shoe.

profile # 2

Your leg should be slightly bent at the knee and hold that position. O K lets change position and do the same thing with the other leg. This exercise is stretching out the back of your leg from your calf down to your ankle.

straight on Annie

OK lets come on up and remain at the front of the chair.

for the next stretch in this series we'll put your legs forward in a V position. Your legs should be slightly bent and your feet as wide as you feel comfortable with.

straight on # 1

Now with both hands on one knee, reach down as far as you can towards your foot. You'll feel this stretch all along the back and inside of your leg. Now come on up and switch legs. Reach down toward your foot and hold that position. Remember to breathe normally, a few more seconds...and come on up.

Straight on Annie

Sit back in your chair and relax.

straight on Annie

The next exercise we'll do are hip lifts. Start by rocking side to side and bring your knee up off the seat of the chair.

straight on # 4

You may hold onto the chair for support or leave your hands free, whatever you feel you can do. Just a few more seconds... and relax.

straight on Annie

now put your hands on your shoulders, elbows forward and sit up straight in your chair and bring your knees up to touch your elbows.

straight on # 3

That's it. Make sure to keep your back straight, work your stomach and hips by bringing your knees up rather than your elbows down. OK now take a rest.

Remember to breathe normally

straight on Annie

straight on # 2

straight on Annie

straight on # 1

straight on Annie

straight on # 4

OK next we'll put our hands back on our shoulders and touch your elbow to your opposite knee. To do this you must twist at the waist while bringing your knee up towards the elbow. This is one of our toughest exercises because we're working the arms, legs, hips and stomach at the same time. OK, great job and relax.

Now let's go up to the shoulders and place one hand on your shoulder, bring your other hand to your elbow and push your elbow up toward the ceiling.

Hold that position. This is stretching out the tricep muscle in the back of your arm. OK now let's do the same thing with the other arm. You may be able to get one arm up higher than the other and that's normal. OK a few more seconds and relax.

Now lets reach across to the opposite shoulder and place your hand near your elbow and push your arm toward your neck.

Hold that position a few more seconds...and relax. Now let's change sides and do the same thing to the other arm. This is also stretching out the tricep muscle as well as the muscles in your shoulder and upper back. OK bring your arm down and take a rest.

Remember to breathe normally

Exercise at your own pace

straight on Annie	Next move forward in your chair and put your hands on the seat near your thighs. Your feet should be wide for better balance. Now we just want to push up out of the chair like you want to stand up, but sit back down. These are sometimes called dips. These are working the back of your arms. These are good exercises for helping you get out of soft sofas and chairs. Just a few more seconds...and relax.	
straight on #2	Now let's punch gently forward one arm at a time.	
straight on Annie	Keep your arms nice and high and try not to snap your elbows, you want a fluid motion. These are also good for your triceps...a few more and relax.	
straight on # 4	Next bring your arms straight up and clap above your head.	
straight on Annie	Try to keep your arms straight during this exercise. This is working your shoulders and arms as well. A couple more and take a break.	
straight on # 1	Next we want to do big arm circles backwards one arm at a time.	
straight on Annie	This will work the shoulder muscles and strengthen your upper back muscles as well. Let's change sides and go to the other arm. I like to do exercises to strengthen the back because that will help you to keep good posture. OK just a couple more... and relax.	Exercise at your own pace
straight on # 2		

straight on Annie	Next put your hands on your shoulders, reach up to the ceiling, open your fingers as wide as you can, and back down	Remember to breath normally
straight on # 1	Keep going, make sure to open your hands and spread your fingers open.	
straight on Annie	OK keep going and reach forward, again open your hands nice and wide this is a good exercise for the arms, hands and fingers OK now lets reach from the shoulders and out to your sides, keeping the fingers open, out and back to the shoulders. A few more... and relax.	
straight on # 4		
straight on Annie	Now it's time to play the piano.	
straight on #2	Make sure you are moving all the fingers and not just moving the hands. This is great for your hands and fingers. If you play back and forth, you'll get a little waist work at the same time. OK great and relax.	
straight on Annie	Now show palms and touch each of your fingers to your thumbs.	
straight on # 4	Concentrate to touch each finger one at a time. If you need to look at your hands to do this, that's fine. These will help you with your daily tasks, or if your like to do crafts using your hands and fingers, this is great for dexterity...And take a rest.	
straight on Annie	OK let's stretch the arms out in front and pull back like you're rowing a boat.	

straight on # 1	This exercise works the muscles of the arms, shoulders and upper back as well. Pull your arms as far back as you can. This again will help keep your back straight for good posture. Alright and relax.	
straight on Annie	Now let's do some shoulder shrugs. Bring your shoulders as high up as you can.	
straight on # 3	Pretend that you want to touch your shoulders to your ears. This is working your shoulder muscles OK now relax	Remember to breathe normally
straight on Annie	Next put your arms out straight in front again and this time pull the arms back straight like you're doing the breast stroke.	
straight on # 4	Take it nice and slow and pull your arms back as far as you can without pain. This exercise again is working the muscles of the upper back and shoulders. Just a few more... and relax.	Exercise at your own pace
straight on Annie	Now let's roll the shoulders backwards.	
straight on # 2	Just bring the shoulders up, back and around. We're working the shoulders and upper back muscles which again are important for good posture. Just a few more seconds...and rest.	
straight on Annie	Now let's go down to the legs and place your hands under your knee and pull one leg straight up, bringing your knee to your chest.	

straight on # 4

It's important to have your hands under your knee, rather than putting pressure on the kneecap. OK now turn your knee outward, and rest your foot on the inside of your other leg and hold that. This will stretch more of the inside of your thigh and now cross over the other leg and gently bring you knee toward your chest. We'll hold that...and relax. Now let's go to the other leg and bring the knee to the chest...hold that...and gently turn the knee outward...hold that...and cross over the other leg stretching out the outside part of your leg and the hip. If you feel any pain during this exercise especially if you have a history of hip pain you may not want to do this exercise and that's fine. OK take a rest.

straight on Annie

OK now make sure your back is supported against the chair, bring both legs up and flutter kick

Remember to breathe normally

straight on # 1	Try to keep your legs straight like boards. This is good for keeping your thighs strong, but you need to make sure that you have back support. OK let's scissor kick, take your legs as far out as you feel is comfortable, this is working the insides and outsides of your legs. Back to a flutter kick, working the tops of your legs or your thighs, keep going and again to a scissor kick a few seconds ...and relax.
straight on Annie	Next we're going to ride the bike. One leg at a time, pedal your leg as though you were riding a bike.
straight on # 2	This again is working the thigh muscles to keep your legs strong. and let's change legs and do the same thing , ride the bike. The pedaling motion can be difficult but if you practice, you'll get it. A few more seconds ... and relax.
straight on Annie	Now that our legs are warmed up let's do our running in place.
straight on #4	Just pick your feet up and down as quickly as possible. This will really get the blood flowing in the legs. And let's go side to side. This takes a little more concentration because it's a movement that we don't do too often. OK and running again, keep it going, almost finished and relax.
straight on Annie	Now let's bring one leg up, and from the hip move the leg side to side.

straight on # 3

Your leg doesn't have to be straight for this exercise but the movement should be from the hip. OK let's change legs and again go side to side from the hip. You may take the leg as far out to the side as you feel comfortable with, just a few more seconds and relax.

straight on Annie

Next we'll do leg circles from the hip. Bring one leg up and make a circular motion with your entire leg.

straight on # 4

These can be hard to do so it sometimes helps to point your foot and pretend to draw a circle with your toe. Let's change direction and make circles the other way... just a few more and let's change leg's and make a circle with this leg, you may be able to move one leg better than the other and that's fine and change direction and do a few circles the other way... and relax.

straight on Annie
(stop tape to move
chairs)

profile on # 1

straight on Annie

profile on # 2

we've had some of our
exercise models move
thier chairs so you can
have a side view of the
next few exercises.
First let's do some leg
kicks form the knee.
Bring one leg up, keep
your upper leg straight
and kick from the knee.
Try not to snap your knee
while doing this
exercise. OK let's
change legs and kick from
the other knee. Again,
don't snap your knee and
work the thigh muscles.
OK let's rest. Next we'll
do straight leg kicks.
Bring one leg up and do
short leg kicks working
form the hip. Your leg
can be straight or
slightly bent but the
movement should be from
the hip. OK let's change
legs and again kick from
the hip while trying to
keep the leg stiff. This
exercise is working the
hip and even some stomach
muscles as well. OK a few
more seconds and relax.
Next let's bring our feet
close to the chair and go
up and down on the toes.
Try to go as high on your
tip toes as you can.
This exercise is working
the ankles and the calf
muscles in the back of
your lower leg. You can
go as fast or slow as you
like. That's it now move
your feet out a few
inches and rock back on
your heels.

Exercise at your own
pace

profile on # 1

Some of you may need to move out toward the end of your seat to reach the floor comfortably that's fine. Keep your heels on the floor and bring your toes as high as you can. She's working her ankles and the front of her lower legs as well. A few more seconds ... and relax.

straight on Annie

Now bring one foot up and move your foot forward and backward from the ankle.

profile on # 2

Try to only move your ankle and foot but keep the rest of your leg straight. Now move your foot from side to side. Again try to only move your foot, not your entire leg. and do circles from the ankle working the lower leg muscles and we'll change legs and move the other foot forward and back a few more seconds and side to side, keep it going and finally circles one way, working the lower leg, change direction and circles again a few more seconds and rest.

straight on group shot
(stop tape to move
chairs)

The last exercises we'll do for today will be neck stretches. We like to end with these because they are relaxing exercises. First bring your chin down towards your chest. Just let your head hang down and relax your shoulders as well. It's important to do any neck exercises slowly because all the nerves in your body are centered in the neck area and we need to exercise caution in this area. OK now bring your ear down toward your shoulder and hold that position. Don't hike your shoulder up, just let everything relax, now slowly move your head to the other side, bring the other ear to the shoulder and again relax, don't try to force these, the muscles should relax not tense, and turn and look over one shoulder, it doesn't matter which shoulder you look over because we'll do both sides, and change directions and look over the other shoulder, relax and hold. Alright come back to your original position and we're done for today. Before we leave I'd like to thank all of my exercise assistants for doing such a wonderful job. Remember to stay active and do a little exercise every day. You'll feel better and will add quality and years to your life. Thanks again, and we'll see you next time for more chair-exercise.

Continue straight on
group shot we will
stand and "mingle" as
the credits roll to
fade to black.

Thanks to the students
and staff of De Anza
College Television
Center and to the
staff of San Jose
State University
Department of Human
Performance. You have
my gratitude and
respect. Many thanks
to my exercise
assistants Angie
Curdie, Vera
Boldenweck, Louise
Carter and Thomas
Leary. You are models
for us all. Finally,
thanks to those family
and friends who
prodded me into making
this video a reality.
Annie Zacanti,
copyright 1992.

APPENDIX I

EXERCISE VIDEOTAPE EVALUATION

Please respond to the best of your ability concerning the exercise videotape that you have just viewed. Your participation and candor are appreciated. To respond to each statement, place a check mark in the space provided that best represents the extent to which you agree or disagree.

1 = Strongly Disagree (SD)

2 = Disagree (D)

3 = Neutral (N)

4 = Agree (A)

5 = Strongly Agree (SA)

6 = Don't Know (DK)

	SD	D	N	A	SA	DK
	1	2	3	4	5	6
1. The videotape "do's and don'ts" were easy to read and understand.	☐	☐	☐	☐	☐	☐
2. The sound quality of the videotape was adequate to hear.	☐	☐	☐	☐	☐	☐
3. The videotape models' clothing was appropriate.	☐	☐	☐	☐	☐	☐
4. The videotape's use of older adult models was enjoyable.	☐	☐	☐	☐	☐	☐
5. The exercising older adult models were easy to follow.	☐	☐	☐	☐	☐	☐
6. The exercises in the videotape were performed too quickly.	☐	☐	☐	☐	☐	☐
7. The length of the videotape was too long.	☐	☐	☐	☐	☐	☐
8. The videotape's exercises were challenging without being too difficult.	☐	☐	☐	☐	☐	☐
9. Using the videotape along with the classroom instructor to make corrections was enjoyable.	☐	☐	☐	☐	☐	☐
10. The exercise guidelines given in the videotape were informative.	☐	☐	☐	☐	☐	☐
11. I received more attention from the instructor when using the videotape than without use of the videotape.	☐	☐	☐	☐	☐	☐
12. Comments to explain any of the above answers or other comments:						