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USE AND FEASIBILITY OF VIDEOCASSETTES FOR INDIVIDUALIZED INSTRUCTION BY HOME ECONOMICS EXTENSION AGENTS WITH RESPONSIBILITY IN HOUSING AND HOME FURNISHINGS

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USE AND FEASIBILITY OF VIDEOCASSETTES FOR INDIVIDUALIZED INSTRUCTION BY HOME ECONOMICS EXTENSION AGENTS WITH RESPONSIBILITY IN HOUSING AND HOME FURNISHINGS

by

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The purpose of this study was to determine the feasibility of developing videocassette libraries in county offices of the North Carolina Agricultural Extension Service for clientele use. The study investigated attitudes of agents and attitudes and perceptions of knowledge gained by clientele, two important elements influencing feasibility.

The study was conducted in two phases. Phase I included the assessment of attitudes of 92 Home Economics Extension Agents with responsibility in housing and home furnishings regarding videocassette use for individualized clientele learning. Agents generally had favorable attitudes about videocassette use.

Factor analysis of the Phase I questionnaire resulted in six factors. The Pearson product moment correlation procedure tested Hypothesis 1 for relationships among the six factors and certain personal characteristics. The hypothesis was rejected for three factors. Agents who were less creative in using visuals, less familiar with videotape formats, and had less experience with videotapes had less positive attitudes about videotape as a teaching medium, the feasibility of clientele videocassette use, and the impact of videocassettes on Extension programming, respectively.

In Phase II, two videocassette programs on selecting furniture were developed. Forty counties stratified by region and population were randomly selected for this phase of the study. Chi-square and *t* tests, used in an item-by-item analysis, tested Hypothesis 2 for differences between experimental and control groups. Hypothesis 2 was rejected for differences between the two groups on three items of the questionnaire regarding videotape effectiveness when used alone, overall value of libraries, and effectiveness of videotape for organizational use, with the experimental group reporting more favorable attitudes toward these items.

Most of the 208 clientele rated the programs favorably and indicated an increase in knowledge. Most expressed favorable attitudes toward videocassettes as a method of information dissemination, and indicated they would use them again, if available.

Chi-square analysis tested Hypothesis 3 for relationships among clientele attitudes and certain personal characteristics. Hypothesis 3 was rejected for relationships among clientele attitudes regarding videocassette use in county and amount of learning from videocassette programs as compared to a meeting and age and county size. Clientele over 40 and from rural counties expressed more positive attitudes.

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CHAPTER I

INTRODUCTION

The North Carolina Agricultural Extension Service is an educational organization whose primary objective is to provide information to help individuals and families increase their knowledge and skills in order to improve their quality of life. The Agricultural Extension Service is the link between knowledge and information gained from research and the general public who will use the knowledge and information to improve their lives. Extension's educational programs are informal, factual, objective, and practical, and are designed to help consumers improve their decision-making skills and solve their own problems (USDA-NASULGC, 1968). As societal conditions change, problems encountered by people change, and the Agricultural Extension Service must also change if it is to continue to have a dynamic and effective educational program (North Carolina Agricultural Extension Service, 1965). Educational strategies and programming must constantly be adjusted to adapt to the public's needs (Boone, Dolan, & Shearon, 1971). Thus, "as situations within which people live and interact change--so must the posture of the Extension Service change" (Boone, Dolan, & Shearon, 1971, p. 2).

Today, one of the most socially significant happenings affecting the quality of family life and the educational approaches of organizations, such as the Agricultural Extension Service, is the significant increase of married women working outside the home (Steeves & Bostian,

1980). In 1970, 41 percent of the married women were in the labor force. By 1979, almost half, 49 percent, of the married women were employed outside the home. Today more of those working women have children under six years old. In 1970, 30 percent and in 1979, 43 percent of the working women had children under six years old (United States Department of Agriculture, 1980). These figures indicate a significant impact on the economy in the demands for goods and services as these working women seek to maintain or improve their family's standard of living. Political and educational systems must adapt to meet their needs. Educational organizations will need to adapt their present communication methods to include more mass communication and individualized communication techniques because of the new demands made on the working women's time (Steeves & Bostian, 1980).

As more demands are made on the family's time, time for learning will become more of a premium. Home Economics Extension Agents have used group meetings in a home or community center to effectively reach clientele in the past (Agriculture and Home Economics Experimental Station, 1980). Today meetings are still considered to be a viable method of learning since learning occurs both from the presentation and the sharing of life experiences by the participants. However, attendance at meetings has decreased drastically. The significant increase in the number of women working outside the home has created scheduling problems. Travel costs have increased also, causing an erosion in meeting attendance. Thus, the North Carolina Agricultural Extension Service and the Home Economics Extension Agent must look for viable alternative educational methods to reach working women more effectively (United States Department of Agriculture, 1980).

A study by Steeves and Bostian (1980) investigated uses of media and information services made by employed women in Wisconsin and Illinois. The median age of the respondents was 34.9 years of age with two-thirds of the respondents being 45 years old or younger. The study indicated that magazines were their first or second choice source for most information. Pamphlets and bulletins, Extension's most commonly used printed form, were not listed first, second, or third for any subject. The data indicated that radio and television may be effective ways of reaching employed women with useful information. The data may also have implications for the use of videotapes as an individualized learning package for in-home use as videocassette units become more prevalent in homes.

One age group, representing over two-thirds of the sample in the Steeves and Bostian (1980) study and who would be expected to be a large proportion of the women employed outside the home, were the young adults. Young adults are usually classified as people from age 20 to age 40. The steering committee which developed a national plan for home economics (United States Department of Agriculture, 1980) identified young families as one group requiring more attention from home economics educators.

As Home Economics Extension seeks to reach the young adult audience, there will be new and greater demands made on the time and resources of the county agents and specialists. As indicated in the Brown (1974) study, more effective and efficient time utilization will be required. Instructional technology can help relieve some of the demands and provide more effective and efficient programming from a

program's inception to its evaluation. In a report prepared by the joint United States Department of Agriculture--National Association of State Universities and Land-Grant Colleges Extension Study Committee in 1968, it was recommended that Extension make "the best use of its available staff by utilizing new electronic teaching devices, new communications systems, and new teaching techniques" (p. 91).

In 1979, a special task force appointed by the Chancellor of North Carolina State University to develop recommendations for future roles of the North Carolina Agricultural Extension Service recommended that the Extension Service more effectively interpret technology and speed up the delivery process to the people. One suggestion by the committee included the expanded use of electronic media such as teletip, videotape, and portable teaching machines (Chancellor's Committee, 1979).

The steering committee which proposed the national plan for home economics (United States Department of Agriculture, 1980) believed that educational patterns and practices in home economics need to be adjusted to accommodate new technology and a more mobile society. They believed home economics should "focus on experimenting with methodologies, assessing their relative cost and effectiveness for producing identified kinds of behavior change, and adopting the most efficient methodologies" (United States Department of Agriculture, 1980, p. 26). The steering committee indicated that video presentations are one viable alternative to some of the present educational methods.

The characteristics of the videocassette medium and its advantages coordinate well with the needs and demands of adult learners. According to Hull and DeSanctis (1979), adult learners enter into

educational endeavors to get assistance in dealing with life's problems rather than to learn just to be learning. In other words, they have specific goals in mind. They want to participate in learning experiences at their convenience, at that teachable moment when they need to know the information or need to know how to perform a skill. Traditional teaching methods such as meetings or classes are not as convenient for them. Instructional technology and, in particular, the videocassette can actually make learning available to the young adult almost any time day or night. It is a flexible medium that can be used to impart information or to teach a skill. The videocassette's length and type of program can also be flexible to meet individual learners' needs. It can also provide feedback if the program is designed with that ability.

The focus of this research study was on assessing the feasibility of developing videocassette libraries in the local county offices of the North Carolina Agricultural Extension Service for "in-office" or "in-home" use by clientele. Two videotape programs were developed and implemented in selected counties to compare attitude changes of agents regarding individualized videocassette instruction and its use by the North Carolina Agricultural Extension Service between a group of agents who used the videocassette programs and a control group who did not use the videocassette programs.

The decision regarding how extensively videocassette presentations are to be used by the North Carolina Agricultural Extension Service in its educational system is a major administrative decision This study did not attempt to provide that answer. However, it should

provide some benchmark information about where and how to begin to incorporate videotape technology in the present North Carolina Agricultural Extension System. Extension personnel need to know if the individualized medium of videocassettes is effective in teaching, not as a replacement for the county agent, but as a supplement to his/her total educational program. Extension does not want to lose personal contact where it is needed; however, its primary concern is to provide its clientele with flexibility in meeting their educational needs.

The North Carolina Agricultural Extension Service has demonstrated its interest in the video technology. There is presently a receiver and a reel-to-reel color playback unit in every county office in the state. The videotape is primarily used for administrative and organizational information, for agent training, and for small-group programs. However, the present reel-to-reel format is not conducive to general public use. It is difficult to operate without specific operational training and is generally not reliable.

There are plans to purchase a one-half inch videocassette unit for each county within the next few years. To replace the present units in each county will be a costly venture. This cost will be an "add on" cost since savings from the purchase will not be realized immediately. However, the videocassette units will be cost effective over a period of time by enriching program content, allowing flexibility in scheduling, providing more variety in instructional needs, and offering the prospect of reaching more young adults (Carnegie Commission, 1972).

The ultimate success of the videocassette as an individualized teaching medium for Extension's clientele will depend on the quality of

the programs and on the attitudes of the county agents regarding its use. The Extension county agents have generally been favorable toward the videotape medium for administrative and organizational matters, for in-service training, and for small group meetings (Shoffner, 1976). However, they have not used the videocassette as an individualized learning medium for their clientele. It is the belief of the researcher that the attitude of the county agent is an important factor in the success of a videocassette library center for individualized learning. Assessing the attitudes of the agents regarding the use of the videocassette as an individualized learning medium for their clientele should provide valuable insight into the organization, management, and operation of the system, including the identification of problems before they become large-scale ones.

It is also the belief of the researcher that certain characteristics of the agents influence somewhat their attitude toward the use of the videocassettes for individualized learning. Younger agents with more formal education, fewer years of service, more experience with videotape, and more creative use of visual materials may have a more favorable attitude than older agents toward the use of videocassettes for individualized instruction and videocassette library centers in the county offices.

This study included a field experiment testing the use of two videocassette programs, one on selecting wood furniture, and one on selecting upholstered furniture. According to Linden (1979), young adults have a high degree of interest in home furnishings. In fact, the furniture expenditure for the 25 to 44-year-old age group exceeds

the average expenditure of older age groups by almost 45 percent. A recent inquiry conducted by Better Homes and Gardens Magazine (1979) indicated that people want and seek information on buying furniture before purchases are made. In the study approximately 60 percent of the people who had purchased furniture recently began searching for ideas and information six months prior to purchase. Forty percent of them had written furniture manufacturers for booklets and brochures. Determining quality was indicated by over 30 percent as the most difficult factor about buying furniture. More than 37 percent indicated they wanted information on furniture construction when they were shopping for furniture. Thus, it seemed that an educational program on selecting furniture using the videocassette as an individualized learning medium was an excellent way for the North Carolina Agricultural Extension Service to begin a concerted effort to reach young adults with home economics related programs.

Purpose of the Study

The overall purpose of this study was to determine the feasibility of developing videocassette library centers in the local county offices of the North Carolina Agricultural Extension Service for clientele to use in their homes or in the local Extension office.

Specific objectives of the study were

1. To determine the attitudes of North Carolina County Home Economics Extension Agents with responsibility in housing and home furnishings toward the use of videocassettes as an individualized learning medium for clientele.

2. To determine whether there are relationships among attitudes and selected personal characteristics of the Home Economics Extension Agent, such as age, years of service, education, previous knowledge and experience with videotapes, and their creative use of visual materials for programs.
3. To develop two 15-minute videocassette programs on selecting furniture: one on selecting wood furniture, and one on selecting upholstered furniture.
4. To compare the attitudes toward the use of videocassettes of a sample of County Home Economics Extension Agents with responsibility in housing and home furnishings whose clients did and did not use the videocassette program in an individualized learning situation.
5. To determine the attitudes of the clients who used the videocassette as an individualized learning medium regarding its usefulness as a learning medium.
6. To determine whether there are relationships among attitudes of clients and certain personal characteristics, such as experience with Extension, education, residence location, age, employment, and planned furniture purchases.

Statement of Hypotheses

The hypotheses for this study were the following:

H_1 There will be no relationships among the attitudes of County Home Economics Extension Agents and certain personal

characteristics, such as age, years of service, education, previous knowledge and experience with videotapes, and use of visual materials for programs.

H_2 There will be no difference in the attitudes toward the use of the videocassette as an individualized learning medium between County Home Economics Extension Agents with responsibility in housing and home furnishings whose clientele did and did not use the videocassette program.

H_3 There will be no relationship between the attitudes of clientele who use the videocassette program(s) and certain personal characteristics, such as age, education, residence, employment, planned furniture purchases, and experience with Extension.

Definition of Terms

The following definitions are provided to assure understanding of their use throughout the study:

Educational media include all audiovisual and printed materials used for the purpose of instruction (Kemp, 1975).

Educational technology includes the components of equipment and media resources used for instruction and the systematic process of designing and planning the instruction from the objectives to the evaluation process (Kemp, 1975).

Hardware refers to equipment such as videocassette recorder, slide projector, and overhead projector.

Individualized learning defines the learning situation in which the individual learner participates in the instruction alone and controls the pace of the learning.

Media denotes all forms and channels used to transmit information. In this study, media will be used interchangeably with educational media.

Software refers to the educational programs that are used on media equipment.

Traditional instruction refers to the lecture/demonstration/discussion type of instructional program that is the most widely used means of instruction by county Extension agents.

Videocassette is a permanently encased, two-reel system of magnetic tape that can record video and audio signals for television use. The videocassette must be played on a video player that is compatible in size and format (AECT, 1977).

Videocassette library refers to a collection of videocassettes on various topics of educational interest to Extension clientele, available for use on compatible video player equipment in the County Extension Office or for use by clientele on compatible video player equipment in their homes. Videocassette library will be referred to as library in the present study.

Videotape is a magnetic tape on which electronic pulses record the video and audio portions of a program for playback on a nonbroadcast television system (Guralnik, 1976).

Limitations of the Study

Several limitations of the study were acknowledged. The adults who participated in the program were limited to those who responded to the typical recruitment procedures of the North Carolina Agricultural Extension Service. Home Economics Extension Agents were asked to include mass media publicity, such as radio, television, newspapers, and newsletters, as well as announcements to young Extension Homemakers Clubs as a part of their recruitment procedures. They were also asked to contact local furniture retailers for publicity.

Thus, as is the case in most field studies, representativeness was a concern. Generalizations about the study were restricted to populations similar to the sample who participated by using the videocassette programs. Their voluntary response may indicate a more favorable attitude toward the videocassette than would be exhibited by the typical population of adults. In addition, the subject matter area selected for use in this study may have affected the type and number of adults who participated.

A further limitation of the study was the fact that instructional programs in only one subject matter area were included. Generalizations regarding the effectiveness of the videocassette program in teaching cannot be made with regard to other subject matter areas and to other aspects of house furnishings. For example, generalizations from this study cannot be made regarding the effectiveness of the videocassette in teaching refinishing furniture skills or gardening skills.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this study was to investigate the feasibility of videocassette use by the North Carolina Agricultural Extension Service as a means of disseminating information to consumers. This literature review begins with the process of communication and its relationship to learning. The process of selecting media for learning, the characteristics of mass communication, theories which are applicable to this study, and the effects of mass communication on learning provided the basic background information for the discussion of television. A discussion of educational technology traces the development of television, videotape, videocassette, videodisc, and the future home communication set. The use of television in education and the techniques for using television effectively provided technical information for the development of the videocassettes tested in the study. A discussion of the research on television and the problems and limitations of television research concluded the literature review.

Communication and Learning

Communication is an essential ingredient to any dynamic society. People who are communicating with each other create an enlightened, progressive society in which a variety of ideas flourish freely. This principle of communication also applies to instruction (Dale, 1969).

Thus, studying communication is necessary to maintain a progressive society as well as a progressive educational system.

Berlo (1960) popularized the source-message-channel-receiver model of communication process most often used when studying communication today. The model includes six basic ingredients: communication source, encoder, message, channel, decoder, and the communication receiver. The ingredients of the communication model interact, each affecting all the others. Such interaction means there is no beginning or end or even a fixed sequence of events. The process of communication is dynamic, on-going, and continuous.

According to Berlo (1960), "man's basic purpose in communicating is to affect, to influence himself, his social and physical environment" (pp. 95-96). His basic desire is to reduce the uncertainty of the world around him and to establish a consistent structure on which he can rely (Berlo, 1960).

Cook (1959) believed that all communication results in learning. Berlo (1960) suggested that the model of stimulus-response learning was similar to the model of communication. He compared the ingredients of both and the relationships within each model. Using intrapersonal communication, communication with oneself, to prove his point, he said the two processes of communication and learning were equivalent. In communication a message is decoded by the receiver, who encodes it. In learning an organism perceives (decodes) a stimulus (message) and produces an overt response (encode). It is evident that the ingredients in communication have their analogies in the ingredients of learning. Both are processes with no required beginning or

end. Learning, like communication, is continuous, dynamic, and ongoing. Thus, it could be said that learning is communication.

Learning involves the development of a changed response that occurs when a stimulus is perceived and interpreted by the learner. Learning indicates permanence in the stimulus-response relationship and is the development of habitual responses to a stimulus. Communicators want to create messages that produce learning and strengthen and utilize existing habits (Berlo, 1960).

Selection of Media for Learning

Teachers select the channel or medium of instruction to present stimuli to the learners. According to Briggs (1967), the selection of media involved two factors: (1) the kind of stimuli needed to fulfill the requirements for learning, and (2) the capability of a medium to provide the necessary stimulation for learning to occur. Briggs (1967) also stressed the importance of the characteristics of the learning tasks as defined by the objectives and subordinate competencies when selecting media for learning. He listed three important considerations when selecting a medium for a particular competency: (1) general instructional events that are necessary for most types of learning, (2) special instructional events needed for a particular type of learning, and (3) the type of stimuli needed to produce the general and special instructional events for a particular competency (Briggs, 1970). Schramm (1977), who had similar views, suggested that a medium be selected for its mode of presentation and the symbol system that would make the intended learning task easier and more effective, not

because the medium had more embellishment or was more attractive. In other words, the medium should give the kind of practice or participation most needed for the task.

Neither of the previous philosophies of medium selection placed much emphasis on the learner. Briggs (1970) believed that learner characteristics were important in medium selection, but that in actual practice, learner characteristics should be considered in terms of the task variables.

Dale (1969) seemed to have more concern for the needs of learners when selecting media. In developing the "cone of experience" or visual analogy for learning, he expressed the view that educators should use the kind of experience that was most appropriate to the needs and abilities of the particular learner in a particular learning situation.

Research conducted with adult learners especially stressed the importance of learner characteristics when selecting media. The report by UNESCO (1958) indicated some characteristics that were unique to adults and important factors in their learning process. The report indicated that adult learners have a smaller capacity for concentration due to (1) fatigue of job and career; (2) their "burden of existence" in trying to combine labor, family, and study; and (3) the voluntary aspect of their educational endeavors. Also identified in the report were three cultural functions of audiovisual materials when used with adults: (1) to stimulate active attitudes, (2) to transmit new knowledge concerning the communication device, and (3) to convey new knowledge through content. Thus, audiovisual materials

could be a means of motivation as well as instruction for adults. Hull and DeSanctis (1979) suggested that traditional instructional delivery systems often do not work for adult learners. Programs for adult learners need to be attuned to social priorities and needs as perceived by clientele rather than clientele needs as perceived by the educators. "If the adult is given the opportunity to select media and activities that fit his or her preference, motivation and learning outcomes will be greater" (Hull & DeSanctis, 1979, p. 15).

Cost and convenience were cited as other factors which influence selection of media (Briggs, 1967; Schramm, 1977). The availability of the hardware and software and the cost to obtain or to develop them directly affect cost considerations. Time and availability of trained technical personnel for local production are other factors affecting cost considerations. The quality of centralized production and the economics of unit costs that are possible through a "wide-range medium" such as television must be weighed against the flexibility of a smaller medium such as film and the difference in ease of matching the medium to the needs of the user (Schramm, 1977).

Much still remains to be learned about selecting media for learning. Brown, Lewis, and Harcleroad (1977) listed eight general principles on medium selection and use:

(1) No one medium is best for all purposes.

(2) Medium uses should be consistent with objectives.

(3) Users must familiarize themselves with medium content.

(4) Media must be appropriate for the mode of instruction.

(5) Media must fit student capabilities and learning styles.

(6) Media are neither good nor bad simply because they are either concrete or abstract.

(7) Media should be chosen objectively rather than on the basis of personal preference or bias.

(8) Physical conditions surrounding uses of media affect significantly the results obtained. (p. 71)

Thus, there are many considerations and no easy answers for educators when selecting and developing instructional media for learners. All the factors, such as the kind of stimuli needed, the capability of a medium, the learners, and cost and convenience, have been considered by this researcher in the selection and development of the medium of television for the study program on furniture buying sponsored by the North Carolina Agricultural Extension Service.

Mass Communication

Television itself is classified as a mass medium, because it has the capacity to reach an audience of unlimited size simultaneously (Erickson, 1965). In mass communication, a machine or a communication organization is used as the channel as opposed to an interpersonal communication where the channel reaches from one person to another (Schramm, 1973).

Distinctions Between Interpersonal and Mass Communication

Cassata and Asante (1979) identified five areas in which there are distinctions between interpersonal communication and mass

communication: (1) immediate theme control, (2) emphasis and restatement, (3) sensory stimulation, (4) feedback, and (5) multiplicative factor. In interpersonal communication, either person can change the topic or theme. In mass communication, the topic or theme is controlled by the producer. The audience has little or no control. Participants also control the amount of topic emphasis and restatement in interpersonal communication. The control of emphasis and restatement varies in mass communication, depending on the type. In written types of mass communication, such as books and newspapers, the participant can reread as needed. However, with television the producer controls the emphasis and restatement of information. Interpersonal communication involves all five senses as a part of the communication process. Mass communication usually involves only one or two of the senses. Feedback occurs simultaneously with the sending of the message in interpersonal communication. It is impossible to get simultaneous feedback using mass communication. The multiplicative factor affects mass communication only. The communicator's ability to influence is increased, but the difficulty of preparing a message for a variety of people is increased also.

Mass Communication Theories

Two theories of mass communication which have relevance to this study are the individual difference theory and the social categories theory. It is important to be aware of the theories even though their application may not have been intended for educational programming.

> Human perception studies revealed that the individual's values, needs, beliefs, and attitudes play an influential role in

> determining how he selects stimuli from the environment and the way he attributes meaning to those stimuli. (DeFleur, 1966, p. 121)

In other words, perception differs from one person to another according to his personality structure. The individual difference theory of mass communication was developed from the studies of human perception. The theory indicates that the effects of the media on the audience will vary from person to person because of individual differences in psychological structure. Thus, media messages contain stimuli that interact with certain personality characteristics of members of the audience (DeFleur, 1966).

The individual difference theory is related to the social categories theory. This theory assumes that people belonging to one particular group (age, sex, income level, educational attainment, and rural-urban residence) will select similar mass communication content and react in a similar manner (Cassata & Asante, 1979; DeFleur, 1966).

The individual difference theory and the social categories theory may have implications regarding the attitudes of both Home Economics Extension Agents and their clientele toward the use of videocassettes as a vehicle for information dissemination. The researcher believed that a positive relationship regarding videocassette use for information dissemination would exist with young Home Economics Extension Agents who had fewer years of service with the North Carolina Agricultural Extension Service, had more formal education, and more knowledge and experience with videotape program materials, and that clientele who have not attended Extension meetings previously and who are employed full-time outside the home would be more favorable toward videocassette use for educational information.

Effects of Mass Communication

Many questions regarding the effects of mass media are still unanswered today. According to Davison, Boylan, and Yu (1976), most of the studies regarding the effects of mass media have been concerned with the effects of politics, advertising, and socialization rather than education. Based on the research literature, the guidelines regarding the effects of mass media on politics, advertising, and socialization are only approximate ones. The use of mass media to socialize, inform, persuade, or to focus attention remains as much an art as a science.

> Professional users of communication are frequently surprised by the unintended effects they achieve--assuming that they are able to find out what effects do result from their activities. (Davison, Boylan, & Yu, 1976, p. 194)

Roberts (1972) supported the premise of Davison, Boylan, and Yu. He believed that mass communication was not the most effective medium for influencing immediate change of established beliefs, opinions, attitudes, or values due to the nature of the medium itself and the heterogeneity of the audience. Mass media cannot tailor its message to individual needs and beliefs. This result occurs because there is no immediate feedback to clarify a point or reinforce a response. Yet, Roberts (1972) found that people were receptive to information that helped them reach their goals.

An in-depth explanation of the effects of mass communication was offered by Klapper (1960). He listed five factors influencing the effects of mass media:

1. General mass communication does not ordinarily produce necessary and sufficient cause for audience effect, but functions with other mediating factors and influences.

2. The mediating factors make mass communication a contributing agent more likely to reinforce than change.

3. When mass communication does function to change,
   a) the mediating factors will be inoperative and the media effect will be direct.
   b) the mediating factors will be impelling toward change already.

4. Mass communication in certain residual situations does seem to produce direct effects to serve psycho-physical functions.

5. The effectiveness of mass communication is affected by certain characteristics of media and the communication situation. (p. 8)

Klapper (1960), from his study of the effects of mass communication, concluded that mass media did create effects, some of them were spectacular, but most were unassuming and unnoticeable.

Cassata and Asante (1979) found that the level and direction of the effects of mass media were affected by the attributes of the source, attributes of the channel, attributes of the message, and attributes of the audience. A trustworthy or prestigious source, with whom the audience can identify, is more effective than an unknown source. Effectiveness of the channel is determined by its multiplicative power, and timeliness and simultaneity of the message. The message itself, its clarity, emphasis, and tone affect audience reaction. In addition, personal attributes of the audience, such as personality and educational differences, impact on the effectiveness of media messages.

Effects of Mass Media on Learning

The effectiveness of mass media becomes more controversial when the issue is learning. Schramm (1962) made generalizations about the effectiveness of instructional television on learning based on comparisons of 393 studies. He concluded that instructional television was a device for learning without a doubt. This finding had been demonstrated in schools with a variety of students throughout the United States and in several countries. Costello and Gordon (1965) reached a similar conclusion based on 15 years of research by teachers and administrators. The comparisons made by Costello and Gordon indicated that television was a means to spread good teaching to more people than previously existed and at less cost per student than traditional instruction.

Yet, opposite conclusions were drawn by Crow (1977) and Gagne and Briggs (1974). They indicated that the data available from previous studies could not be generalized due to differences in learners, to the multitude of topics used, and to weak research designs. More specific research results regarding the effectiveness of television on learning will be discussed later in the review.

Davison, Boylan, and Yu (1976) were more optimistic than Crow (1977) and Gagne and Briggs (1974). They believed one could speak with considerable confidence about the new possibilities for individuals and societies that open up as a result of mass media. A technology's existence does not indicate necessarily the results it will have. The results, instead, depend on conscious and unconscious choices made by people.

Media Gratification and Use

Researchers in mass communication have been more concerned in the past few years with media gratification and uses. The "uses and gratification" approach, as it is called, explores the way individuals use mass media to satisfy their needs and to achieve their goals. It has four basic assumptions. First, an active audience seeks specific media content to satisfy needs. Secondly, the audience's selection is made from a variety of modes. Thirdly, people are aware of how media meet their needs and are capable of communicating their needs and interests. Finally, the audience's use of media is explored without cultural assumptions (Cassata & Asante, 1979).

In fact, Cassata and Asante (1979) asserted that the question of mass media effects was no longer a valid one. Instead, they said, researchers should be concerned with how people use mass media; how important a part mass media play in their education, political life, and their cultural world; and that they should begin to study how society can better use mass media to its best advantage. This study was designed to look at some of those concerns as they related to one type of mass media educational program used by the North Carolina Agricultural Extension Service.

Development of Educational Technology

According to Finn (1972), technology is imbedded in the social conditions of the time. It involves men, machines, patterns of organization, economic feasibility, and interaction with science. White (1962) expressed a similar opinion when he said:

> As our understanding of the history of technology increases, it becomes clear that a new device merely opens a door; it does not compel one to enter. The acceptance or rejection of an invention, or the extent to which its implications are realized if it is accepted, depends quite as much upon the condition of a society and upon the imagination of its leaders as upon the nature of the technological item itself. (p. 28)

Prior to the nineteenth century, industrial technology and educational technology were similar in nature. Both were crude with industry relying on artisans and handwork, and education or instruction using slate, blackboards, chalk, and books. After the nineteenth century, the Industrial Revolution brought major changes in industry. However, the same revolution did not occur in instruction. Between 1900 and 1950, assembly-line operations were common. The research and development concepts were introduced. By 1950, technology had transformed American society, philosophy, and art. However, between 1900 and 1950, technology only slightly influenced instruction. The American educational system failed to apply the new technologies of radio, television, and sound motion pictures. Poorly designed audiovisual equipment and equipment mismatched to educational needs were part of the reasons that schools failed to rush to adopt innovations during the post-war period.

In 1955, education became interested in technology. Television was seen as a solution to the problems of overcrowded classrooms, shortage of qualified teachers, and decreasing quality in instruction (Costello & Gordon, 1965). Title VII of the National Defense Education Act of 1958 focused on improving instruction through motion pictures, programmed instruction, and television. It also provided for

research and dissemination of information of those new types of media to the educational community (Finn, 1972; Winslow, 1970).

In the late 1960's, two major developments boosted the field of educational instruction. One development was the acceptance and standardization of color television through the National Television Systems Committee. The second was the development of inexpensive practical and durable video tape recorders (Connochie, 1969).

Ashby (1967) called the development of electronics, such as radio, television, tape recorder, and computer, the fourth revolution in education. A few years ago, the Carnegie Commission on Higher Education (1972) reported that the fourth revolution was faltering due to the deficiency or unavailability of software, such as video-audio tapes and computer programs. The deficiency was caused by two factors. The incompatibility of components made educators skeptical as they tried to guess which format might be the most marketable. Few instructors had the combined interest and expertise in subject matter, media technology, and learning theory to design high quality instructional material.

Finn (1972) identified two opposite trends occurring in education today. The first trend was mass instruction using educational, commercial, and closed-circuit television. The second trend, and the one he called the "audiovisual wave of the future," was individual instruction using those same electronic devices. Technology is definitely having an impact on the instructional process now, and this trend is expected to continue in the future.

Educators must be aware and understand the impact that technology can have on the instructional process so that students and learning

continue to be the primary focus (Finn, 1972). Understanding the impact of technology on the educational process requires knowledge of the technology itself.

Development of Television

The electronic technology of television was developed and perfected during the 1920's and 1930's. By 1939, broadcasts by television were being made in the United States. One of the most notable ones was President Roosevelt's speech at the World's Fair. In 1941, the Federal Communication approved home television, and the communication industry began to plan for its development. By this time, there were nearly 5,000 television sets in private homes, and several small stations were broadcasting regularly for two to three hours a day. By 1948, there were approximately 70 broadcasting stations in operation (DeFleur, 1966).

Television inherited many of the traditions of radio. The sophistication of the technology of television before mass production of the television set and the fact that the structure of control with the government and the Federal Communication Commission was already developed made its diffusion into society relatively easy. By the mid-1960's, American society was saturated with television (DeFleur, 1966).

Development of Videotape

Videotape recording made it possible to record "live" television programs for later use at several locations (Connochie, 1969). In 1956, videotape recording and playback equipment were first introduced

for commercial television storage and retrieval (Finn, 1972; Winslow, 1970). These videotape recorders were heavy, bulky, expensive machines permanently installed in the studio, with costs ranging from $50,000 to $75,000 (Connochie, 1969). This price was prohibitive for educational television stations. In the late 1950's, the Ford Foundation provided a grant through the National Educational Television and Radio Center "to provide one broadcast standard videotape machine to all NETRC affiliated educational television stations" (Finn, 1972; Winslow, 1970).

In 1964, the helical (spiral) or half-helical scan videotape was developed. It was designed specifically for the closed-circuit education and training community. Its cost when introduced was $1,000 to $9,000. This light-weight and portable videotape unit changed the availabilities of educational television (Connochie, 1969; Winslow, 1970). In 1968, the Sony Corporation issued a domestic tape with additional color modification available at a reasonable price. Thus, video technology development was well on its way (Connochie, 1969).

Development of Videocassette

Videocassette equipment was first introduced in the United States by Sony in 1971. With the development of the 3/4" U-Matic format, recording and playing back a taped program was as easy as turning on the television. The Sony 3/4" U-Matic format was adopted by Japanese and American companies as an "agreed upon" intermanufacturing standard. It is presently the videotape standard used by schools, libraries, business, and industry for filming. Recordings made on one 3/4"

U-Matic machine are playable on all machines regardless of the manufacturer (Winslow, 1978).

Videocassette equipment is simpler to use and more reliable than the conventional videotape equipment. These characteristics make it ideal for public use, because it does not require the technical expertise of an audiovisual equipment specialist to operate it (Winslow, 1978). Recent developments in the equipment have lowered the cost and improved the quality. The market for videocassette recorders has grown enormously since 1975. It is estimated that more than one million videocassette machines are presently in use by both consumers and industry (Menashian, 1981).

Videocassette equipment produced for use by the consumer use one-half inch tape and are available in two formats or tape presentations. Thus, videocassettes are available in the standardized formats and widths of 1/2" VHS, 1/2" Beta, and 3/4" U-Matic (Brown, Lewis, & Harcleroad, 1977).

The one-half inch videocassette recorders available today are far more versatile than those of two years ago. The recorders today can record more hours of programming and speed up a recorded tape with the picture still visible. The home viewer can record from one channel while he watches another television channel. The recorder can be preset so it records while the person is away from home. The videocassette recorders will also allow the consumer to view commercially recorded videocassettes that are available for purchase or rent. The present videocassette units are more portable and weigh less than the 40-pound consoles of a few years ago. However, the portables lack

many of the versatile features of the consoles ("Videocassette Recorders," 1980).

As indicated previously, there are two formats for the one-half inch videocassette: the Beta format, developed by Sony; and the VHS format developed by Matsushita. The formats are similar in operation and design, but are not compatible. In other words, one system's cassette cannot be used on another system's recorder for recording or playing back. The format influences such factors as the versatility of the playback controls and the amount of recording time ("Videocassette Recorders," 1980).

The recording speed affects the quality of the picture produced. Generally, the faster the recording speed, the better the picture. The VHS models have three recording speeds; the Beta models have two recording speeds. Consumer Reports ("Videocassette Recorders," 1980) indicated no meaningful difference in picture quality between the two formats. However, they did rate the picture quality of the console units higher than the picture quality of portable units.

In such areas as advance programming, tape search, cue/review, fast/play, pause/freeze frame, and slow motion, the Consumer Reports ("Videocassette Recorders," 1980) rated the Beta console units above the VHS consoles. They also rated the console units as a better choice over the portable units ("Videocassette Recorders," 1980).

The UNESCO Report (1977) agreed somewhat with Consumer Reports ("Videocassette Recorders," 1980) in that it indicated videocassette recorders were more stable and less expensive than the conventional videotape recorders, but that the one-half inch videocassette units

were not ideal for production use. They were relatively unstable for cable systems because of their poor quality signal. Thus, their major value was for replaying complete nonstop programs.

Today, there is a large array of videocassette equipment available. The major problem continues to be the lack of standardization and the incompatibility of the software and hardware. The standardization issue has been a problem since the helical scan videotape was developed in 1964. Counterarguments against standardization indicate that it would eliminate competition and freeze technological developments and cost reduction programs (Winslow, 1970).

Development of Videodisc

The videodisc is the latest introduction in home-video technology. It is essentially a record that "plays pictures" when attached to a television set. The videodisc cannot record. It is designed for playback only.

Videodiscs and players have been on the market in the United States since 1978 on a limited basis. As with the videocassette, there are three different and incompatible systems: the capacitance electronic disc (CED) system, the reflective laser optical (LV) system, and the video high density (VHD) system. Each operates on different principles so it is impossible to develop a player that could accommodate all three types of discs (Lachenbrach, 1981).

The LV system has been on the market for two years. It

> uses a shiny, silvery, two-sided 12-inch disc without grooves to play records through any television set. The disc is "read" by the beam from a low-powered laser--no stylus touches the disc, so there's no wear on the record. (Lachenbrach, 1981, pp. 5-6)

There are 30 minutes of program time on each side. The LV system can be controlled by the viewer. It offers such features as freeze frame/ full motion capability, electronic address, and fast random access (Menashian, 1981). LV discs recorded in the extended play mode provide one hour of programming per side, but they sacrifice the feature of stop-action, and slow and fast motion ("Videocassette Recorders," 1980).

Interactive LV discs are available in which the viewer can participate in the program by operating various controls and locating devices on the player. One example is a disc that keeps children busy on a rainy day. The disc program tells them which buttons to push to see certain program segments and to play various games (Lachenbrach, 1981). Testing of student knowledge can also be done on the videodisc system. The magnetic tape holds the student's responses (Menashian, 1981).

The CED disc has grooves to guide a diamond stylus like the conventional record player. Each CED disc is enclosed in a plastic sleeve. The sleeve and disc are inserted into the player, and then the sleeve is removed. After the disc has played, the sleeve is returned to the slot to remove the disc. The initial CED players that were introduced in 1981 lack the controls of the LV players. They also presently have only monaural sound. Stereo versions will be available later. The emphasis of the CED disc is on simplicity of operation, variety in programming, and low cost (Lachenbrach, 1981).

The VHD system, developed by the Japanese, is expected to be introduced in the United States in late 1982. VHD discs have no grooves like the LV discs, but they pick up variations in capacitance like the CED disc. The VHD disc is a two-sided, 10-inch record with a total of two hours of playing time. It has dual-sound tracks and can provide viewer control with a limited amount of stop-action, slow and fast motion, and easy access to specific segments. The price of the VHD system is expected to be higher than the CED system and lower than the LV system (Lachenbrach, 1981).

Convenience, low program material costs, durability, and light shipping weight are the major advantages of the videodisc system, making them excellent for educational use (Brown, Lewis, & Harcleroad, 1977).

Home Communications Set

According to Wicklein (1981), there is a new "revolution of technology" already in progress. He predicted that a single electronic system will bring together all modes of communication. The focus of the system will be the home communications set (HCS). It will be similar to a television set, but will have a keyboard. The home communication set will include a video telephone, provide news in print or video form, and even produce copies of printed news. It will supply hundreds of channels for television viewing, including commercial programming, service programming for special-interest groups, educational programs, and electronic catalogs or "shopping channels."

The home communication set will be a two-way system. The consumer will be able to store purchases on credit, pay bills, conduct banking, send mail, get emergency medical advice, be "present" in classes, and get text materials from the library while at home. It will also feature a direct smoke alarm to the nearest fire station and a burglar alarm to the nearest police station. Wicklein (1981) indicated that all the parts are presently in operation, and the fully integrated home communication system should be operational in the near future.

Television in Education

According to Dale (1969), "[for learning]. . . television is as close as any mechanical device can get to the direct experience itself" (p. 122). Television has the unique capability of making the message more realistic with its emphasis on persons, its organized presentation, and its ability to highlight and clarify. Television compresses time and space, omits unnecessary and unimportant material, and concentrates on key points. It, in fact, may be easier to understand than conventional instruction because of its planned order for presenting information (Dale, 1969).

Dale (1969) cited four major characteristics of instructional television that make it appropriate for education today. First, television is instructor-guided with the teacher on camera leading the student or viewer through the learning experiences. Second, instructional television is systematic in that the learning experience is related to the objectives of the course. Television instruction is

ordered and sequential with one program building on another. Last, instructional television is integrated so that broadcasts relate to other learning experiences.

The uses for television in education are almost limitless. Tyler (1960) noted that television can motivate learners, expound ideas and concepts and develop them logically, present models, raise questions, present problems, and provide some drill or practice.

Use of Television in Schools

Costello and Gordon (1965) listed three potential ways of using television for instruction: (1) enrichment, (2) cooperative teaching, and (3) total teaching. Enrichment indicates that television instruction is used as an adjunct to the classroom teacher. The success of television in this situation depends upon the quality of the telecast and its relevance to the course of study. Cooperative television teaching is basically similar to enrichment. However, with cooperative television teaching, the greatest portion of the teaching may be done with television. The classroom teacher must augment the instruction on television and that requires cooperative planning. In total teaching, television carries the responsibility for motivation and teaching. Total teaching is used primarily when there is a shortage of skilled teachers, equipment, and classrooms, and its use is more convenient.

> All in all, the only good reason for attempting total teaching by television is that either a skilled instructor is not available for regular classroom instruction, or inadequate facilities make it impossible to offer lessons any other way. (Costello & Gordon, 1965, p. 129).

Winslow (1970) cited a fourth use for television in the education system. He believed that television would provide remedial instruction to allow make-up or concentrated attention in narrow subject areas.

The Meirhenry-McBride study (cited in Winslow, 1970), conducted in 1961, reported that 49 percent of the schools responding to their survey were using delivered instructional materials. Of those 49 percent, approximately 57 percent were using television for supplemental teaching, 38 percent for enrichment of classroom instruction, five percent for remedial instruction, and zero percent for total teaching. Subsequent studies by the National Instructional Television Center verified that the primary use continued to be supplemental in which television did not provide the major content, but correlated with the course and provided additional information not otherwise possible (Winslow, 1970).

Higher educational systems have been using video technology more innovatively than secondary educational systems. At Oral Roberts University and at the University of Miami, automatic computer controlled libraries have dial access retrieval systems connected to carrels or individual electronic study booths. A student may dial a lecture, demonstration, or reference work. Another university has carrels with dial access retrieval systems in the dormitories. Such a system could be available in the student's home, too (Connochie, 1969).

Higher education has also been using television and videotapes to relate theory and practice in teacher-training programs, nursing-training programs, medical doctor training programs, and social and psychological training programs (Carpenter & Kroth, 1976; Cypert, 1969; Doty

& Harrington, 1972; Little & Hungerford, 1972; Warwick & Ravin, 1975). Videotapes allow students to see and evaluate themselves "in action" as they practice the skills they are taught.

The most unique use of television instruction has occurred in the country of China. Educational television there is regarded as a "functional teaching device." It is a very important medium of instruction in higher education, although it is a novelty in Chinese homes. The Chinese government has established a television university offering courses in English, science, and technology to alleviate the shortage of teachers and the lack of facilities needed to accommodate more of the eligible young adults. Presently, three million Chinese young adults take college entrance examinations, but only 300,000 or four percent can be admitted to college. Thus, the major objective of the television university is to educate many more young people than can be done using conventional techniques.

Students take courses from the television university at their place of work or at home, and meet regularly at a learning center for review and testing. Workers are given time off and free tuition to take courses. Enrollment in the spring of 1981 was 420,000. The television university is meeting the political and educational needs of the Chinese government by increasing the educational level of the entire country and training people to meet the need of modernization throughout the nation (Chu, 1982).

According to Costello and Gordon (1965), the most effective balance between television and "live" instruction is not known. The balance depends upon six factors: (1) subject matter, (2) materials

necessary for learning, (3) skill of television personnel, (4) skill of television teacher, (5) capabilities of live instructor and seminar leaders, and (6) nature of the students.

Use of Television in Industry and Military

The use of television for instruction is not exclusive to the school systems. The military uses television for training programs to ensure uniform qualify of instruction. Industry presently uses it to conduct sales meetings where new models of products are introduced to the entire sales force at one time and to conduct in-service training. Such use of television is financially advantageous to the company and, like the military, ensures uniform information to all personnel (Costello & Gordon, 1965).

The use of television by the military and industry is not new. Training programs conducted by both were the first application of instructional technology with large groups of men and women (Finn, 1972).

Industry is presently using video technology more than ever. Menashian (1981) cited four reasons for the increased use: (1) greater demand for information dissemination, (2) technological improvements of the equipment, (3) escalating travel expenses, and (4) lower telecommunications cost. Industry estimates that through the use of video technology, more efficient training can be provided while saving training manhours time. Another advantage is the improved intra-company communications.

Advantages of Television

As with any medium of communication, the use of television in education has its advantages and disadvantages. Television can often enhance educational opportunities. With television, it is possible to see and hear experts one could not normally see and hear in person. Television makes on-site learning possible and thus can provide insight that would be impossible to achieve in a traditional classroom setting. Television provides convenience to the student since the learning can be scheduled at the student's time preference. Television is versatile. It can save teacher and student time since it eliminates repetition of explanations for those who do not need them, yet parts or all of the program can be repeated for those students who do need it. Television is instructive and enjoyable. There are no interruptions, no distractions, and no questions (Crow, 1977; Dale, 1969). With television teaching, everyone in the class gets a front row seat, creating a strong psychological impact because of the eye contact and the image enlargement. Television can be a personal, intimate medium when it is used in one-to-one situations. In fact, it can be almost as effective as personal contacts (Costello & Gordon, 1965; Crow, 1977).

Disadvantages of Television

The disadvantages of television cover the gamut as do the advantages. The primary disadvantage of television is limitation to one-way communication only. This characteristic makes television unable to promote class discussion, provide feedback on the

effectiveness of teaching, and make adjustments to individual learner differences. Thus, in learning situations where human contact, feedback, and consideration of individual learner differences are necessary, television is not the most appropriate medium. Another disadvantage of television created by its characteristics of one-way communication is that it encourages the passive form of learning. Television promotes the process of learning through observation (Costello & Gordon, 1965; Crow, 1977; Dale, 1969).

Thus, television teaching is best used when communicating information and when the one-way communication process is possible or desirable. Television teaching is at a disadvantage when face-to-face interaction is needed and immediate response from the students is required.

Every medium, every strategy, every method has advantages and disadvantages. The teacher should be aware of those advantages and disadvantages and use the medium according to the facts known (Crow, 1977).

Teaching on Television

Television is different from radio and the conventional classroom in that its emphasis is upon the visual. Radio and the conventional classroom are not always visually oriented. The conventional classroom is often similar to radio in that the visual orientation is secondary to the listening orientation. Thus, when teachers convert their lectures to television, they often forget about the visual end of the spectrum (Crow, 1977).

Simply taking what is done in the regular classroom and using it on television is not using television for its uniqueness. Neither is taking pictures of a talking face (Crow, 1977). Teaching on television must capitalize on the qualities that make it a viable teaching medium. Those qualities include concreteness, variety, heightened expectancy, uniformity, reinforcement of idea and information, and immediacy (Dale, 1969).

Wood and Wylie (cited in Crow, 1977) listed nine basic television formats which may be used alone or combined for additional formats:

1. lecture--"talking face"
2. illustrated lecture with visuals
3. demonstration
4. voice-over visualization with an off-camera narrator
5. interview
6. panel discussion
7. dramatization or role play situations
8. filmed field trip with recorded footage of event, activity, or place
9. documentary.

According to Costello and Gordon (1965), "time and skill which should have been applied to instruction in the classroom must be applied to the television lesson" (p. 70). The first step in teaching on television is to determine the educational objectives in terms of video. The objectives should also be based on the amount of instruction to be conducted by television. It is critical that everything presented on camera be planned (Costello & Gordon, 1965).

Length of Lesson

Researchers have indicated that the interest spans of students vary according to age, and have recommended lengths for television teaching based on the research. Length of programming for primary grades is 15 to 30 minutes; for high school, 20 to 40 minutes; for college level, 45 to 90 minutes. However, the best length depends upon the content, quality of student's attention, motivation, interest in subject, skill of teacher and production staff, and quality of the television system (Costello & Gordon, 1965). Dale (1969) indicated that television is "more influential in teaching when the message is specific and directly related to the needs of the user" (p. 378).

Characteristics of Effective Television Teacher

Teaching on television is different from teaching in the conventional classroom. An effective teacher is more critical to the success of television teaching than to the success of conventional classroom teaching. Television cannot make a poor teacher more effective or an effective teacher less effective (Crow, 1977).

Adams, Carpenter, and Smith (1958) listed five points that characterize the ideal television teacher, who would be (1) proficient in subject matter and enthusiastic about subject matter; (2) warm and outgoing in personality; (3) adaptable and flexible; (4) creative and resourceful; and (5) courageous and confident. Gordon (1970) added other criteria in his description of the effective television teacher. He indicated that experience and success in the classroom were necessities. He expounded on the personality aspect to say that the

teacher should not be overwhelmed by the technological aspects and should be flexible and receptive to learning television techniques. He further stated that awareness of audio and visual materials is helpful for providing lesson quality.

Diamond (1964) included some of the same characteristics mentioned by Adams et al. (1958) and Gordon (1970). However, he further elaborated by adding the ability to communicate, well-organized work habits, and a sense of humor. Costello and Gordon (1965) also included some of the same characteristics mentioned by the others, and added two other very important points--experience with television and talent.

Television teaching not only requires special traits of the television teacher, but it also requires extra preparation time by the television teacher. A study by Bowen and Douglass (1971) analyzed instructors' time and found video technology required ten more hours per week of preparation time than did preparation time for conventional classroom instruction.

Appearance of Television Teacher

Crow (1977) discussed in detail the physical appearance of the male and female teacher so that he or she would not detract from the overall purpose of the lesson itself. The general rule she proposed was to be conservative if in doubt regarding dress and appearance. The physical appearance recommendations for females are discussed since they are most applicable to this study.

Makeup on television. For makeup of females, Crow (1977) recommended that street makeup be used with a light powder before going on camera. Pancake makeup could be used to conceal freckles and blemishes.

Eye makeup should be minimized, especially eye shadow which could unattractively accent dark eyes. A light application of eyeliner will make eyes more distinct. Eyebrows should only have a light touch with pencil, also. Pink and cherry red lipstick are more effective since some of the dark colors turn purple or blue with the lights. Medium dark nail polish is recommended. Eyeglasses should be worn if they are normally worn by the person. Avoid the use of sunglasses on camera.

Clothing for television. Careful selection of clothing is important. Color is especially critical to appearance and light reflectance. Pastels and medium tones are preferred to light colors. White and light yellow should be avoided, because they tend to "bloom" or blur on television. Black and white color combinations should be avoided, because they can create a "halo" effect on camera. Solid fabrics are preferable to patterned fabrics. Extreme patterns should be avoided as should fine detailed fabrics such as houndstooth, small checks, small dots and stripes, because they tend to shimmer on camera. Women should avoid dresses and blouses with frills and unusual collars which interfere with the microphone. They should also not wear large or shiny jewelry which can cause a glare and be distracting in "moving-hand" shots. Pant suits and longer skirt lengths are preferable when the woman will be sitting in front of the camera (Crow, 1977).

Body utilization on television. Body movement in front of the camera is another important aspect which can enhance or hinder a teacher's success. Generally every motion and all talk in front of the camera and microphone should be slow and deliberate. Sudden, jerky motions will appear awkward and be difficult for the camera to follow.

The teacher should look directly into the camera lens during taping to create that intimate "I'm talking to you" feeling. Looking at the entire camera or the camera operator will not be as effective. If two cameras are used in the production, the person on camera should watch the lights to know at which camera to look. The teacher should not watch the monitor while talking except to align visuals that are on camera. The lack of eye contact will be distracting to the viewer. When conducting an interview, one should look at the other person rather than the camera.

When one uses visuals on camera, one should lead the camera with his voice. Props and visuals should be placed on a solid stand or table to avoid rolling. Pointers should be moved slowly so that the material is on camera long enough for the point to be understood. Pointing should be done with the "up-stage" hand which is the hand away from the camera. Props and visuals should be moved slowly and smoothly so that the camera can follow. "Streaking" can occur when a bright object is passed quickly in front of the camera (Crow, 1977).

The person in front of the camera must be aware of his every movement. Hand motions near the face are greatly magnified on camera. Studio or on-site distractions should be ignored. A relaxed person or a "relaxed looking" person will be more credible on television. In working with television, it is important that the person learn the hand cues used by television personnel, develop and use a script to guide the director and camera operator, and be sure that the camera is "off" when she goes off (Crow, 1977). There is much to learn for the teacher who uses television to teach, but the results of seeing a successfully produced program make the extra time and effort worthwhile.

Research in Television and Videotape Technology

Research in media is important so that educators gain a better understanding of the functions media can achieve for different learners and different tasks. Proper use of educational media can enhance learning.

The first major study of a visual medium with motion used as an educational tool was a study of film at the University of Chicago in the 1920's. The military began to study the use of film and television in the 1940's and 1950's. The passage of the National Defense and Education Act of 1958 led to the expansion and intensification of research on the use of media as an educational tool in the 1950's and 1960's (Wilkinson, 1980).

Extensive studies continue to be done in the United States on such topics as television's effect on quality of instruction; subject matter most effectively taught on television; institutions, departments, and courses effectively using television; optimum use and reciprocal benefits; class size comparisons; and kind and amount of supervision necessary (Connochie, 1969).

Types of Studies

Compeau (1967) discussed three types of studies which provide information to educators regarding the use of television and videotape in education, namely: (1) comparative-effectiveness studies, (2) utilization studies, and (3) basic studies. Comparative-effectiveness studies generally compare the relative amount of learning

produced by a "new" medium versus a conventional method of instruction or another medium. Such studies may also compare one new medium with another new medium in the amount of learning produced. Utilization studies discover how a given medium teaches best. In other words, they compare one method of using a medium against another method of using that medium to determine which use of the medium produces the most learning. Basic studies determine the relationship of medium and learner variables to achievement.

Two other types of studies discussed in the review were attitudinal and motivation studies and cost effectiveness studies. These were included since they had implications for this study on the feasibility and use of videocassettes by the North Carolina Agricultural Extension Service.

Comparative-effectiveness studies. Most of the comparative-effectiveness studies compared television to face-to-face conventional instruction. Crow (1977) summarized the significant findings from the research. She concluded that the absence of immediate feedback does not affect learning, although the lack of opportunity to ask questions is significant when teaching advanced or complex materials. She found that students missed the personal contact with a teacher to which they were accustomed in the conventional classroom. Students liked small discussion groups better than television teaching, but preferred a small instructional television class to large conventional classroom lectures. Crow (1977) also found that student attitudes toward instructional television were irrelevant to learning. Students who were more favorable to instructional television did not necessarily

learn more from it. The Thorman and Amb (1972) study, comparing the videotape/discussion method of teaching with the lecture/discussion method of teaching, reached a similar conclusion. Students in both classes expressed similar attitudes regarding the method of presentation, yet the students in the videotape/discussion group scored significantly higher on cognitive measures when the t test was used to measure the differences. The Campbell (1971) study also supported Crow's conclusion regarding the correlation of attitude toward instructional television and learning from television. The purpose of the study was to compare the effectiveness of three methods of teaching two units of agricultural subject matter using two styles of presentations. Each of the two units of agricultural subject matter included lecture, demonstration, and student participation as methods of teaching. Videotapes made of the live presentations for three groups were replayed for the other three groups. In the experiment, students who had an unfavorable attitude toward television instruction scored equally as well as those who had a favorable attitude toward television instruction. However, the students who were in the videotape group scored significantly lower than did the students who experienced the live presentations.

Chu and Schramm (1967) reviewed the literature on the effectiveness of instructional television. They surveyed 421 comparisons of instructional television with traditional instruction as reported in 207 separate studies. They concluded that students at all grade levels learn well from television although television's effectiveness is reduced somewhat with adult learners. Chu and Schramm (1967) also

found that instructional television was effective in virtually every subject matter.

Dubin and Hedley (cited in Jamison, Suppes, & Wells, 1974) provided more information in their study of the comparisons of instructional television and traditional instruction at the college level. They surveyed 191 comparisons of the two instructional methods. One hundred and two studies indicated that instructional television was more effective in learning, while 89 studies favored the traditional classroom instruction as more effective. However, most of the differences were insignificant at standard levels of statistical significance. When sufficient data were available, Dubin and Hedley used the distribution of the statistics of the individual comparisons of instructional television and traditional instruction to weight appropriate differences in the various degrees of statistical significance. When the t statistic was applied, they found a slight, but statistically significant, difference in favor of traditional instruction.

Stickell (cited in Jamison et al., 1974) examined 250 studies comparing television to traditional instruction. The studies were required to meet certain criteria, such as have at least 25 subjects in the control and experimental groups, use of random sampling from the same population, use of the same instructor for both television and classroom, use of a reliable and valid instrument of measure, and evaluation by "acceptable statistical procedures." Stickell found ten studies which met all those standards and 23 that were acceptable with minor problems. All ten of the studies that met his standards reported no significant difference between instructional television and

traditional classroom instruction. Of the acceptable studies, three indicated a statistically significant difference in favor of instructional television. None of the acceptable studies indicated traditional instruction as statistically more effective in producing learning.

Trent and Dierking (1975) conducted a study to determine the amount of information mothers of teenagers could acquire on teenage nutrition in an informal learning situation. Half of the mothers viewed a videotape presentation on the topic, and the other half viewed a live presentation on the same topic presented by the same person who prepared the videotape. Trent and Dierking found no significant difference in the effectiveness of the two presentation methods. Both groups could recall similar amounts of information. The group who viewed the live presentation could recall 53 percent more information than they did on the pretest, while the group who viewed the videotape presentation could recall 55 percent more information than they did on the pretest. Thus, Trent and Dierking concluded that if the topic is of particular interest to a group, that as much knowledge could be gained through a videotape presentation as through a face-to-face presentation.

Warwick and Ravin (1975) evaluated the content of three instructional videotapes demonstrating regional anesthesia motor skills and studied the effectiveness of the method of teaching without comparing the medium to traditional methods of instruction. They believed videotapes could allow control of the quality of instructional programs and

that videotapes could be more responsive to individual educational needs. Second-year medical students assigned to obstetrics internships participated in the experiment. Pre- and postmeasures covering the same material indicated a significant increase in knowledge about regional anesthesia. The results demonstrated that the videotapes and supplementary material did provide factual information at the level of the predetermined standards.

Several advantages of the videotapes as a method of instruction that were identified in the experiment were that (1) the student observed and learned how to perform the procedure before doing it "live" so that a patient would not be exposed to a novice, (2) the videotapes produced identical learning experiences for all students, and (3) the videotapes provided individualized instruction for those students who needed the repetition. Thus, Warwick and Ravin (1975) concluded that the videotapes successfully met the predetermined educational objectives of the lesson.

Utilization studies. Utilization studies compare one method of using a medium with another method of using the same medium to determine which method produces the most learning. In 1961, Bryan (cited in Campeau, 1967) supplemented television in his chemistry and physics courses with (1) correspondence study, (2) teacher trainee tutor, and (3) correspondence study and teacher tutor. In his chemistry course, he found that television used with the correspondence study and the teacher tutor produced significantly higher results in learning than when television was used with either alone. However, in Bryan's physics course, the results were inconclusive.

Kohlmeyer (1974) conducted a utilization study concerning the use of television in group and individualized learning situations. Two hundred and three fourth and sixth grade students were randomly assigned to three treatment groups. Group I viewed a 20-minute science lesson with pre- and postlesson reinforcement by the classroom teacher. Group II viewed the same 20-minute science lesson and used individualized learning packets for pre- and postreinforcement. Group II viewed the same lesson individually and used individualized learning packets for reinforcement. Pre- and posttests were administered to all subjects to determine gain scores. The analysis of variance statistical procedure indicated no significant difference in learning between the three groups. Comparison of mean posttest scores revealed that Group II, who viewed the lesson as a group and used individualized learning packets, scored the highest. Group III, who viewed the lesson individually and used the individualized learning packets, scored the next highest. Group I, who viewed the science lesson as a group with teacher reinforcement, scored the lowest on the posttest.

Basic studies. Basic studies examine media and learner variables such as learner characteristics and learning conditions that may be related to achievement. A study conducted by the University of Alabama in 1961 examined television instruction in a high school chemistry class. The results of the study indicated that black students who used television instruction scored significantly higher on the posttest than those black students who did not use television instruction. On the other hand, white students who did not use television instruction scored significantly higher on the posttest than those white students

who used television instruction. The study also found that the effectiveness of television teaching was related to the environmental conditions for learning. When a well equipped laboratory was available, students who did not use television instruction scored higher than those students who did use television instruction. However, when only a poor laboratory was available, students who used television instruction scored higher on the posttest than those students who did not use television instruction (Campeau, 1967).

The Campbell study (1971) discussed previously found that there was no significant difference in scores on an evaluation test between students who had vocational agriculture in high school and those students who had not had vocational agriculture in high school. The study also found no significant difference in learning between students from rural backgrounds and students from urban backgrounds. Thus, the results indicated that farm and nonfarm students learn equally well when taught by videotape instruction.

Attitudinal-motivational research. Attitudinal and motivational research explores the effects of media instruction on the learner's attitudes and motivation. The research examines the effectiveness of media for promoting learning instead of changing attitudes and interests related to the content of the instruction (Campeau, 1967). Chu and Schramm (1968) discovered in their research five factors that affected students' attitudes toward instructional television which were (1) the amount of contact with "live" teacher, (2) the difference between the attitude of the "live" and television teacher, (3) the students' interests in the instructional television lesson, (4)

the students' attitudes toward television in general, and (5) the viewing conditions. They found evidence of a Hawthorne effect among students beginning to use instructional television, but there was no significant indication that the students' attitudes toward instructional television changed with time. Crow (1977) indicated that the users' attitudes about instructional television were dependent on their previous experiences in teaching. Dubin and Hedley (cited in Jamison et al., 1974) found college students had more favorable attitudes toward instructional television after experiencing it.

The research on teachers' attitudes toward instructional televion indicated that their attitudes were dependent upon several factors, as follows: (1) their imagination of instructional television as a threat to classroom teaching, (2) their attitudes toward mechanized instruction itself, (3) the value they placed on instructional television, (4) their perceptions of the problems and difficulties involved in educational technology, and (5) how conservative they were. Teachers who had taught on television indicated that teaching on television required more work, took more time, and gave no opportunity for feedback from students. They disagreed regarding whether instructional television encouraged student independence or student dependence.

Attitudes of users of videocassettes was an important part of this study. Attitudes and interests of clientele and agents regarding the medium itself and the message must be considered when planning Extension program content and developing dissemination procedures.

Cost-effectiveness studies. Cost-effectiveness or cost-benefit studies evaluate several mediums of teaching in terms of the most output for a set dollar cost or a set level of output for the least dollar cost. The steps in the process are to determine the objectives of the lesson, course or program; to determine if there are feasible alternatives; to determine relevant cost of the feasible alternatives; and to interpret the results and make the choice (Wilkinson, 1980).

Van Horn's (1974) study compared the cost of live face-to-face training programs by an Extension specialist and the cost of a video-training program offered in the county by the home economist. Van Horn trained 191 individuals using a ten-hour program series videotape training program. The training totaled 3,598 unit hours of instruction at $3.34 per instruction hour based on the costs of initial production. The cost per instruction hour would decrease as the videotape programs continued to be used. According to Van Horn (1974), the cost of conducting a ten-hour program series face-to-face by an Extension specialist would range from approximately $61.00 to $190.00 or $6.10 to $19.00 per instruction hour, without including participants' expenses.

Springer (1976) evaluated the cost-effectiveness of five methods of instruction used by the Extension Service. The videocassette method of instruction was the least expensive method ($199.00), yet the group of participants had the highest mean post score and the greatest amount of change from the pretest mean score. Telenet ranked as the most expensive method of instruction ($8.12 per person). Face-to-face presentation by a specialist ranked second highest in cost ($7.16 per

person). Thus, the videotape method was the most cost-effective of the five methods evaluated.

Jamison et al. (1974) stressed that more emphasis on cost-effectiveness in research studies was needed to evaluate the total contribution of technology to education. They believed carefully designed studies could demonstrate that instruction costs can be reduced through the use of video technology without sacrificing quality.

Problems and Limitations of Research in Video Technology

The research studies conducted in the last 20 to 30 years on the use of video technology have not provided specific answers to the questions of use posed by educators and researchers today. Most of the research comparing instructional television to traditional instruction has produced inconclusive findings or no significant difference when two methods of instruction or two different media were compared. Crow (1977) cited weak research designs as the major cause for the inconclusive results. Campeau (1967) and Greenhill (cited in Wilkinson, 1980) elaborated on the shortcomings of the research designs. Greenhill indicated that the most common problems were the use of nonrandom groups and short tests with no evidence of test reliability.

Campeau (1967) questioned the power of the tests used since most of the tests were developed by the investigators and indicated little or no evidence of reliability or validity. She also cited problems with variations in sample size and nonmatched groups in the sample when no control for differences in prior knowledge was used. Few studies

showed evidence of control to ensure equal coverage and emphasis on content. When two media are compared, each medium should use similar subject matter and be suited to the teaching of that subject matter. In comparative-effectiveness studies where the medium was used in combination with instruction by a live teacher in the experimental treatment group, there was often no systematic analysis of the contribution of each to learning. Some studies did not control for teacher variable. Different teachers were used for the experimental and control groups (Campeau, 1967).

Schramm (1971) stressed the difficulties involved in making scientifically valid cross-medium comparisons. He indicated the central problem is that the number of potentially relevant variables to be controlled or regulatively varied is so large that the experiments became "real-world projects" where the researcher has little control at all. Yet, Jamison et al. (1974) noted that when highly stringent controls were imposed on a study, the nature of the controls seemed to make the two methods of instruction so similar in format that no significant difference between the two methods could only be expected. Wilkinson (1980) criticized most of the research as "highly analytic and detached" and unrepresentative of the real world of education.

Dale (1969) believed that the measuring tools to adequately assess some of the critical questions asked about television as a teaching tool do not presently exist. The hazard of evaluating television is that it is often compared to older media of communication and tested using standards and tests more appropriate for the older media. Thus, television's unique contribution is not considered or tested adequately. Jamison et al. (1974) believed that:

> It is plausible--though not, to our knowledge, experimentally verified--that attempts to use the distinctive potential of the television medium would result in more systematic findings of significant difference between instructional television and alternative treatment groups. (p. 38)

The Carnegie Commission (1972) expressed the view that research studies seem to overlook the advantage of technology. The studies, according to the Carnegie Commission, do not make clear that while "'no difference' does not necessarily mean 'better,' it does not necessarily mean 'worse'" (p. 13). Schramm (1962) concluded that the results of no significant difference indicated that the average student can learn as much from instructional television as from ordinary classroom methods. Greenhill (cited in Wilkinson, 1980) agreed, indicating that the results should point out to educational administrators that several alternative methods of instruction could produce learning, thus allowing them to select specific media on the basis of other considerations as well. According to Wilkinson (1980), there is good reason to contend that what instructional media, such as television, do, they do well, including such tasks as providing quality instruction where there is a shortage of instructors, supplementing classroom teaching with additional learning experiences, and providing new opportunities to individualize learning.

Research on Television as a Learning Tool in Informal Learning Situations

The data base to support this study regarding the use of videocassettes in individualized learning situations in the county Extension

office and the feasibility of developing videocassette libraries in the county Extension office was almost nonexistent. Most of the studies only provided partial answers to the questions raised in this study. Many of the studies used television and videotape or videocassettes as enrichment to supplement the live teacher.

The Carpenter and Greenhill (cited in Wilkinson, 1980) film research study for the Navy had implications for this study. Carpenter and Greenhill concluded that well produced films, used either singly or in a series, can be used alone to teach some types of performance skills or to convey some type of factual information. The study also indicated that students learned more when study guides were provided. Film and television are similar media so the results were applicable to television use in this study.

The Ball and Bogatz (1970) study indicated the effectiveness of television for children as an educational tool beyond the classroom. The study evaluated the children's program "Sesame Street" which is used without teacher supervision and with an entertainment format. Pre- and posttests measuring children's skills in counting and the alphabet showed that learning increased as the children's viewing time increased.

Public service announcements are another effective method of teaching a concept without the assistance of a live teacher. In a study conducted at Stanford University, children were shown four versions of a public service announcement about nutrition. After viewing one of the four programs, the children were asked to select pictures of various foods for a balanced breakfast. They were also shown a

photograph of several complete breakfasts and asked to select the most nutritiously balanced one. The children who saw the program featuring two animated cartoons, which said the best way to get a balanced breakfast was to eat a variety of foods, were most likely to select correct pictures and were able to substitute nutritious foods more readily. The results of the study indicated that children who saw the public service announcement had a better understanding of the elements of a healthy breakfast although the differences were sometimes small and not always significant ("Teaching Children," 1979). The Ball and Bogatz (1970) study and the nutrition study ("Teaching Children," 1979) demonstrated the effectiveness of television used alone outside the classroom.

Most of the studies used students in elementary, high school, or college classes. The studies by Dumazedier (1958), Shoffner (1976), Springer (1976), Thompson (1975), Trent and Dierking (1975), and Van Horn (1974) were all conducted with adults who participated in the program due to their interest in the subject matter topic. The present study was designed to be used with a similar group. One factor, however, which made this study different, was the use of the videocassette in an individualized situation. In the previous studies, the adults viewed the videotape program in a group setting. The difference in the learning environment may affect the attitudes of the adults, a factor which this study measured. However, the results of knowledge gain demonstrated by the previously mentioned studies should have direct implications for the effectiveness of a similar use of the same medium.

Marshall (1977) was concerned with the attitudes of Home Economics Extension Agents regarding the use of videotape for in-service training to update present knowledge and their attitudes about the approach of the subject matter presentation. She also assessed the relationship of agent attitudes to selected personal characteristics, such as age, years of service, and their experience with educational television. The t test was used to determine differences in agents' attitudes between the affective and cognitive presentation format in terms of method, expectation fulfillment, and composite attitude. No significant difference in attitudes was found except in the area of expectation fulfillment for the cognitive appeal program. Multiple regression and the F test were used to determine the relationship of attitudes to certain characteristics. Age, flexibility, and television experience were not significantly related. However, there was a negative significant relationship between agent attitude and number of years with Extension. The agents perceived the video program as significantly useful for clientele use. Similar to the Marshall (1977) study, this study also investigated the relationship of agent attitudes using the selected characteristics of age, years of service, education, previous knowledge and experience with videotapes, and the agent's use of visual materials for programs. However, this program was designed for public use, not as agent training.

The Hershberger (1972) and Robison (1974) studies pointed out the characteristics of videocassette recorders and playback units that would be assets to a county Home Economics Extension Agent in using them for Extension programs. Hershberger (1972) used videocassettes

to train Expanded Foods and Nutrition Education Program Aides in 54 locations in New York. The agents who conducted the training indicated the videocassette was easy to operate and did not require special assistance as did the reel-to-reel video equipment. Some problems with the equipment that were mentioned were horizontal stability and lack of portability.

Robison (1974) furnished videocassette equipment to 25 schools in a school district, and conducted a survey to analyze utilization, effectiveness, and the attitudes of principals, teachers, and students. One conclusion that was made from the study was the ease of operation of the videocassette equipment and its sturdiness and reliability for regular use.

In conclusion, there was support for this study, because no studies were found that examined the attitudes of Home Economics Extension Agents and clientele toward videocassettes and compared the attitudes of Home Economics Extension Agents who did and did not use the videocassette programs in their counties. Although some implications could be made from various studies which measured the effectiveness of videotape or used similar groups, few direct implications could be determined due to the differences in measures or audiences or use of the videocassette program. The present study, therefore, was designed to test the use of the videocassette program in an individualized learning situation with adults who were not in a formal school system.

CHAPTER III

METHOD OF PROCEDURE

The attitude of the county agent and the attitude and perception of knowledge gained by the clientele are two important elements influencing the feasibility of developing libraries in the local county offices of the North Carolina Agricultural Extension Service. This study investigated the attitudes of the Home Economics Extension Agents toward the use of the videocassette to teach clientele in an individualized learning situation. Relationships among attitudes and selected personal characteristics of the Home Economics Extension Agents were also examined.

The study also included the development, use, and evaluation of two videocassette programs designed for use with adult clientele. A comparison of the pre- and postattitude measures of two groups of Home Economics Extension Agents was made to determine whether there were significant differences among the attitudes of agents whose clientele did and did not use the videocassette in an individualized learning situation.

The study was conducted in two phases. Phase I included the assessment of attitudes of the Home Economics Extension Agents with responsibility in the subject matter area of housing and home furnishings regarding the use of the videocassette to teach clientele in an individualized learning situation and their perception of the feasibility of the development of a library in each county Extension office.

These attitudes and selected personal characteristics of the Home Economics Extension Agents were correlated to determine whether there were relationships among them.

Phase II of the study included the development, use, and evaluation of the two videocassette programs on selecting furniture. An experimental group of Home Economics Extension Agents used the videocassette programs in their counties. A second assessment was made of the attitudes of the experimental group and the control group toward videocassettes for individual clientele use and the development of libraries in the county offices to determine whether or not a change in attitude had occurred. The clientele who viewed at least one of the videocassette programs evaluated the program and indicated their perception of the usefulness of the videocassette in an individualized learning situation. The attitudes of the clientele and selected personal data were examined to determine whether relationships existed among them.

Sampling Procedure

Two population groups were included in the study. One population group was the Home Economics Extension Agents in the 100 counties in North Carolina and the unit on the Cherokee Indian Reservation. The agents who participated in Phase I of the study were selected on the basis of their area of work or subject matter responsibility. Those Home Economics Extension Agents in each county unit who had responsibility for the subject matter of housing and home furnishings were asked to respond to the Phase I questionnaire. Four counties did not

have an agent in the housing and home furnishings area due to vacancies so 97 questionnaires were mailed. Six county units were eliminated from participation in Phase II of the study. Two units were eliminated because of missing data on the Phase I questionnaire, three because of agent resignations, and one because the agent was on maternity leave. Thus, a total of 88 county units remained in the population.

Certain guidelines were set by the researcher during Phase II of the study in an effort to ensure representativeness by region and population throughout the State of North Carolina. The 88 county units in the population were stratified by region--coastal plain, piedmont, and mountain--and by population--"rural," counties with a population under 50,000, and "nonrural," counties with a population of 50,000 and above. Counties were designated as coastal plain, piedmont, and mountain strata by use of a geographical regional may from the North Carolina Agricultural Extension Service. (See Appendix A.) The population strata of rural and nonrural were arbitrarily set by the researcher. Counties were assigned to each stratum using the 1980 Census of Population and Housing (U.S. Department of Commerce).

Thirty-three county units were within the coastal plain region of the state. Of those 33 counties, 20 (61 percent) were classified as rural with a population under 50,000, and 13 (39 percent) were classified as nonrural with a population of 50,000 or above. In the piedmont region of the state, there were a total of 30 county units with 12 (40 percent) classified as rural and 18 (60 percent) classified as nonrural. Twenty-five county units were assigned to the mountain region. Of those 25, 18 (72 percent) were classified as rural and seven (28 percent) were classified as nonrural.

From the 88 county units in the population, 40 counties were selected to participate in the study. Twenty were assigned to the experimental group and 20 to the control group. The twenty counties were divided regionally with seven from the coastal plain region, seven from the piedmont, and six from the mountain region for both the experimental and control groups.

Selection of the 20 county units for the experimental group in Phase II was made from the 31 counties who indicated on the preinventory they could borrow videocassette equipment from a local school system or a local community college. Fourteen counties in the coastal plain, ten counties in the piedmont, and seven counties in the mountain region composed the population of the experimental group. Three counties, two in the coastal plain and one in the piedmont, were eliminated due to resignations and missing data, leaving a total of 28 counties in the population.

In the coastal plain, five counties were randomly selected from the seven counties classified as rural, and two counties were randomly selected from the five counties classified as nonrural. The sample was composed of 71 percent rural and 29 percent nonrural, and was similar to the rural (61 percent) and nonrural (39 percent) population classification of the total region.

In the piedmont, the three counties classified as rural were used, and four counties were randomly selected from the six counties classified as nonrural. The sample was composed of 42 percent rural and 58 percent nonrural which was very similar to the population of the piedmont region with 40 percent classified as rural and 60 percent classified as nonrural.

In the mountain region, the four counties classified as rural were used, and two counties were randomly selected from the three classified as nonrural. The sample was composed of 67 percent rural and 33 percent nonrural, and was very similar to the rural (72 percent) and nonrural (28 percent) population classification of the total region.

The control group in each geographical region was identical in number and population classification to the experimental group. Seven counties were randomly selected from the appropriate population strata from the 26 remaining counties in the coastal plain region and from the 23 remaining counties in the piedmont. Six counties in the mountain region were randomly selected from the appropriate population strata from the 19 counties remaining after the experimental group selection. Thus, both the control and experimental groups were comparable in population classification and region of the state.

An additional population in Phase II included adults in the 20 counties whose agents had been selected to participate in the field experiment. The sample for the study included those adults who responded to the recruitment procedures of the 20 agents comprising the experimental group and viewed and evaluated one or both of the videocassette programs.

Instrumentation and Data Collection

In the first phase of the study, a self-administered questionnaire was used to assess the attitudes of the Home Economics Extension Agents regarding the use of the videocassette by clientele in an individualized learning situation. The questionnaire included a total of

33 items. Twenty-three statements were designed with a Likert-scale response format, ranging from "strongly agree" to "strongly disagree" on a five-point scale. Negative and positive statements were included so that the questionnaire itself would not influence the attitudes of the agents. Twelve of the items were positive, and 11 of the items were negative. Ten of the 33 items on the questionnaire related to demographic information about the agents, including title, years of service with Extension, education, age, use of visual materials for programs in housing and home furnishings, the videotape formats with which they were familiar and had used, and their experience with videotapes.

The Phase I questionnaire, "Attitude Survey on Use of Videocassettes in Extension," was pilot tested with a group of 14 Home Economics Extension Agents who participated in the 4-H Activity Days in the Northwestern and North Central Districts and who did not have housing and home furnishings responsibility. The agents were considered to be representative of the population of Extension agents in the study. Several changes were made in the questionnaire as a result of the pilot testing. Two statements in the Likert-scale response format were changed to improve clarity. Instructions for one question were capitalized for emphasis when the pretest produced several responses instead of one. Two open-ended questions became closed questions using categories from the pretest.

Six items were added to the questionnaire after the pilot test for a total of 39 items. One item asked for information regarding amount of use of the present equipment in the county office. Five

items asked for information regarding the availability of videocassette equipment locally.

The questionnaire was mailed to 97 agents with responsibility in housing and home furnishings. The agents were asked to respond to the questionnaire and return it in one week by mail to the researcher conducting the study. Eighty questionnaires were returned within the time period. Those agents whose questionnaires had not been returned were contacted by a second correspondence. Fourteen more questionnaires were returned for a total of 94.

The second phase of the study included the development, use, and evaluation of the videocassette programs on selecting furniture. It involved field testing the videocassette in an individualized learning situation in 20 selected counties. Forty agents were selected to participate in the field testing of the use of the videocassette. The 20 agents selected for the treatment group were asked to recruit adults to view and evaluate one or both videocassette programs in an individualized learning situation. Twenty other agents were selected to be in the control group. The agents in the treatment and control groups again completed the questionnaire. The interval of time between the pre- and postcompletion of the questionnaire was five months.

The questionnaire used in Phase II of the study included a total of 45 items for agents in the experimental group. Twenty-seven statements were designed using a Likert-scale response format. The agents responded on a five-point scale ranging from "strongly agree" to "strongly disagree." The first 23 items were identical to the items that were included on the Phase I questionnaire. The control group

completed a questionnaire with these 23 items for postscore comparisons.

Thirteen items on the Phase II questionnaire for the experimental group measured other aspects of the attitudes of agents regarding the use of the videocassette as a teaching medium and the development of libraries in the county Extension offices. There were three open-ended questions about the experiences of the agents during the study to gain further insight into the operational aspects that would influence the question of development and organization of libraries. One question on recruitment procedures provided information about the methods of promotion for videocassette use, and two questions gave insight into the type of topics to include on future videocassettes.

A self-administered questionnaire was used to assess the attitudes of the clientele toward the videocassette and the usefulness of the information included in the program. The questionnaire was given to the clientele by the Home Economics Extension Agent in each of the 20 counties who were included in the experimental group. Each person who viewed one or both of the videocassette programs was asked to respond to the questionnaire. The agent collected the questionnaires and mailed them to the researcher after the scheduled dates of videocassette use in the county.

The questionnaire included a total of 25 items. Twenty-three items were closed-ended questions. Two of the questions were open-ended so that personal feelings could be expressed without limitations. Six of the questions assessed the attitudes of the clientele regarding the use of the videocassette in an individualized learning situation.

Five questions assessed their attitudes about the information included in the videotape program. Fourteen questions were related to demographic information, including age, sex, marital status, education, employment, residence, previous experience with Extension, how they heard about the videotape program, and their plans to purchase furniture in the next six months.

Development of the Videocassette Programs

Two videocassette programs were developed on the subject of selecting furniture, one 15-minute program on selecting wood furniture and one 15-minute program on selecting upholstered furniture. The Extension Interior Design Specialist conducting the research study developed the content and the script for the two programs. (See Appendix D.) A news editor for home economics in the Agricultural Communications Department of the North Carolina Agricultural Extension Service edited the scripts for television. A panel, including a furniture designer, the public relations director of the Southern Furniture Manufacturers Association, an Extension Home Furnishings Specialist, a professor in Home Economics Teacher Education, and the Director of the Instructional Resources Center at the University of North Carolina at Greensboro, critiqued the scripts for clarity and accurateness and provided video suggestions.

A local furniture retailer allowed the use of his store for filming the two programs. The on-site location provided a real-life setting with the researcher/instructor illustrating how and where to check furniture for quality construction. All segments except for the

introductions, fabric construction details segment, and table construction segment, were filmed in the furniture store.

Technical aspects of the videotaping--design of the presentation, set arrangement, and the development of illustrative materials--were planned jointly by the Extension Interior Design Specialist and personnel in the Agricultural Communications Department of the North Carolina Agricultural Extension Service. Camera operation, editing, processing, and reproductions of the videocassette were handled by personnel in the Agricultural Communications Department. Since the selection factors for the two types of furniture were different, each was discussed on separate programs to keep the content simple and brief.

Program 1: Selecting Wood Furniture

The overall objective of this videocassette program was to help the consumer make wise decisions when buying wood furniture. Specific learning objectives for the videocassette program were the following:

1. The consumer will be able to distinguish between the types of wood construction such as solid wood construction and veneer construction.
2. The consumer will recognize certain features such as type of finish and joint and drawer construction to assess quality in construction.
3. The consumer will recognize the necessity of examining the finish on wood furniture and questioning the retailer about finishing techniques.

4. The consumer will express a feeling of confidence toward shopping and buying wood furniture.

Program 2: Selecting Upholstered Furniture

The overall objective of this videocassette program was to help the consumer make wise decisions when buying upholstered furniture. Specific learning objectives for the videocassette program were:

1. The consumer will be able to judge the wearing quality of upholstery fabric.
2. The consumer will recognize certain construction features, such as good tailoring, matched fabric patterns, how the furniture is padded, and leg to chair construction, to use as a basis for assessing quality.
3. The consumer will know where to look on the furniture for information on padding, how to determine foam density, and what questions to ask the retailer when the information cannot be discerned.
4. The consumer will express a feeling of confidence toward shopping and buying upholstered furniture.

The two programs and the attitude inventory for clientele were pretested with 21 people who were representative of the audience Extension agents would reach in conducting the study. The program on wood furniture was edited to add two close-up shots, one of solid wood construction, and one of veneer construction, for clarity. Some technical video problems in both programs were edited for removal. One category response was added to two questions on the clientele

inventory for clarification. Instructions were capitalized in one section for emphasis in an effort to obtain more accurate data. The suggestion was made by clientele in the pretest to provide handout information with the program. Two checklists, one on buying wood furniture, and one on buying upholstered furniture, were prepared by the researcher and provided for clientele participating in the study. (See Appendix D.)

Testing of Videocassette Programs

The 20 agents in the experimental group who were asked to participate in the study were sent information about the study in a letter from the researcher. They were also sent relevant information for conducting the videocassette program in their county. Guidelines for conducting the videocassette study, procedures for the study, and a news release written by the researcher were included for their information. (See Appendix B.) Each agent was asked to conduct the program one day during a four-week time period, making the program available for an individualized learning situation from 8:30 A.M. to 8:30 P.M. The program could be conducted in the county Extension office, local school or community college, or in a furniture store, typical Extension program locations. Multiple locations for conducting the program were allowed in an effort to reach new clients such as young adults.

Agents who agreed to participate signed a human subjects agreement form and returned it to the researcher. (See Appendix B.) They were also asked to return a postcard indicating the date of their program

and the videocassette format needed. (See Appendix B.) Of the 20 agents, 11 of them were unable to obtain equipment locally and were assigned one of four 1/2" VHS recorder and playback units from North Carolina State University. Fifteen counties used 1/2" VHS recorders and playback units to conduct the program. Three agents used 1/2" Beta recorders and playback units, and two agents used 3/4" U-Matic recorders and playback units. The 11 agents who used the 1/2" VHS equipment from the university were provided with instructions for connecting the equipment to the color monitor in their county offices and operating the videocassette playback unit since no one would be available locally (see Appendix B). Video equipment was transferred from county to county by the researcher or by agents themselves. All 20 agents used the color or balck-and-white monitors available in their offices.

The appropriate videocassette, 25 clientele questionnaires, 25 copies of the "Burniture Buying Checklist: Upholstered Furniture" and "Furniture Buying Checklist: Wood Furniture," one copy of "Guidelines for Conducting the Videocassette Program," one copy of the questionnaire for the agent to complete, and if appropriate, one copy of instructions for connecting and operating the videocassette playback unit were mailed to the agent several days before the scheduled date of the program (see Appendix B). Instructions for returning the videocassette and the questionnaires were included and were highlighted for emphasis.

Data Analysis

The collected data were keypunched onto computer cards in the appropriate manner and subjected to several analyses. Descriptive analysis was used to determine the attitudes of North Carolina Home Economics Extension Agents and clientele. As a preliminary step to analyzing the data for differences among groups, the 23 Liker-scale response items were factor analyzed using a varimax rotated factor analysis. Inferential statistics, including *t*-tests, chi-square, and correlation techniques, were used to analyze the data to determine significant differences between experimental and control groups and relationships among attitudes and selected characteristics for agents and clientele. An .05 level of significance was used throughout the study.

CHAPTER IV

RESULTS AND DISCUSSION

The major purpose of the study was to determine the feasibility of developing videocassette libraries in the local county offices of the North Carolina Agricultural Extension Service. The study was conducted in two phases. Phase I included the assessment of agent attitudes regarding the use of videocassettes in individualized learning situations for client programs and the relationship of the attitudes to certain personal characteristics. Phase II involved the development, use, and evaluation of two videocassette programs on selecting furniture and the assessment of agent and client attitudes regarding the use of videocassettes for disseminating consumer buying information.

Phase I

The objectives of Phase I of the study were (1) to determine the attitudes of North Carolina Home Economics Extension Agents with responsibility in housing and home furnishings regarding the use of videocassettes as an individualized learning medium for clientele; and (2) to determine if there were relationships among attitudes of North Carolina Home Economics Extension Agents and selected personal characteristics such as age, years of service, education, knowledge and experience with videocassettes, and creative use of visual program materials. Data were analyzed from 92 questionnaires returned by the

Home Economics Extension Agents in North Carolina. The hypothesis tested in Phase I of the study was:

H_1 There will be no relationships among the attitudes of county Home Economics Extension Agents and certain personal characteristics such as age, years of service, education, previous knowledge and experience with videotapes, and use of visual materials for programs.

Demographic Data

Biographical data obtained described the agents according to title, age, length of service, education, and whether or not they were presently enrolled in a graduate program (see Table 1). Other demographic information included their knowledge of and experience with videocassettes (see Table 2), and their creative use of visual program materials. The agent's creative use of visual materials was determined by the response to item 28 on the questionnaire. Those agents who indicated they most often adapted visuals and materials from the housing and home furnishings department or developed their own visuals and programs were rated as more "creative" in their use of visual program materials.

Over 70 percent of the agents who responded to the questionnaire had the title of Home Economics Extension Agent. Approximately equal numbers of agents were 41 to 50 years of age (32 percent) or 21 to 30 years of age (31 percent). Fifty-one percent were 40 years old or under, and almost 49 percent were over 40 years of age. Length of service was quite evenly distributed among the categories used up to

Table 1

Summary of Biographical Data for Home Economics Extension Agents with Responsibility in Housing and Home Furnishings

Variable	Number	Percentage
Title		
Assistant HEEA	4	4.4
Associate HEEA	22	24.2
HEEA	65	71.4
No Response	1	
Age		
21-30 Years of Age	28	31.1
31-40 Years of Age	18	20.0
41-50 Years of Age	29	32.2
51-60 Years of Age	15	16.7
No Response	2	
Length of Service		
0-5 Years	20	22.0
6-10 Years	17	18.7
11-15 Years	14	15.4
16-20 Years	18	19.8
21-25 Years	14	15.4
26-30 Years	7	7.7
Over 30 Years	1	1.1
No Response	1	
Education		
Bachelor's Degree	7	7.7
Coursework Beyond B.S.	51	56.0
Master's Degree	31	34.1
Coursework Beyond M.S.	2	2.2
No Response	1	2.2
Currently Enrolled in Graduate Program		
Yes	13	14.3
No	78	85.7
No Response	1	

Table 2

Home Economics Extension Agents' Familiarity and Experience with Videotape Formats

Variable	Number	Percentage
Familiarity with Videotape Formats[a]		
Reel-to-Reel	88	95.6
3/4" Cassette	17	18.5
1/2" Cassette	15	16.3
Total Formats Checked		
One Format	71	78.0
Two Formats	11	12.1
Three Formats	9	9.9
Formats Used[a]		
Reel-to-Reel	86	93.5
3/4" Cassette	17	18.5
1/2" Cassette	17	18.5
No Response	1	1.1
Total Formats Used		
One Format	67	75.3
Two Formats	13	14.6
Three Formats	9	10.1
No Response	3	
Type of Experience with Videotape[a]		
Viewed Administrative Briefing	90	97.8
Individual Agent Training	70	76.1
Small Group with Lecture/ Demonstration	64	69.6
Small Group Used Alone	28	30.4
Other	13	14.1
Total Types of Experience		
One Experience	8	8.7
Two Experiences	21	22.8
Three Experiences	42	45.6
Four Experiences	16	17.4
Five Experiences	5	5.4

[a]Numbers in percentage column total more than 100 percent, because respondents could mark more than one response.

25 years of service. Approximately 20 percent had either zero to five, six to 10, or 16 to 20 years of service. Only 8.8 percent had more than 25 years of service. Over 90 percent of the agents had coursework beyond a bachelor's degree or a master's degree. Only 14 percent were currently enrolled in a graduate degree program.

The agents' knowledge and use of the various videotape formats were limited (see Table 2). Over 75 percent of them were familiar with and had used only one videotape format. Almost all of the agents (88) indicated they were familiar with the reel-to-reel format, and 86 agents indicated they had used the reel-to-reel format. However, very few agents (17) indicated they were familiar with or had used the 3/4" cassette format. Their uses of videotapes were primarily limited to three learning situations--administrative briefing for organizational information, individual agent training, and small group use with a lecture or demonstration. Over 45 percent of the agents listed three types of experience with videotape, and over two-thirds had had three to five types of experience with videotape.

Thirteen agents indicated they had had "other" experiences with videotapes. The "other" experiences most often indicated by the agents were Expanded Foods and Nutrition Educational Program Aide Training and use with specialized advisory council committees. Two agents had made videotapes themselves. Approximately 80 percent of the agents indicated they had creatively used visuals provided by the Housing and Home Furnishings Department by adapting those visuals to suit their own programs.

The videotape equipment presently located in the local county offices was not used extensively by the county home economics staff. Approximately 72 percent of the agents indicated that the videotape equipment was used infrequently (once a month). Over seven percent indicated that the home economics agents in the county did not use the videotape equipment at all.

Descriptive Analysis of Agent Attitudes

The agents responded to 23 items on the questionnaire using a five-point Likert scale from "strongly agree" to "strongly disagree." Over 70 percent of the agents either "strongly agreed" or "agreed" with nine of the items on the questionnaire (see Table 3). All of the agents agreed that the videotape was an effective means for getting information about the organization to county personnel, while 99 percent of them agreed that the videotape was effective for certain types of training for Extension agents. Over 85 percent of the agents indicated that videotape was an effective medium when used with a lecture or demonstration, and 91 percent agreed that adults would accept the videotape when used in that manner. Almost 84 percent of the agents indicated that they felt comfortable using videotapes as resource materials.

There was less agreement regarding the effectiveness of prepackaged videocassette programs to reach young adults (56.4 percent), working women (63.0 percent), and people who do not come to Extension meetings (67.3 percent) (see Table 4). Fifty-two percent of the agents indicated that loss of personal contact with the agent due to videocassette use would be a detriment to the Extension image.

Table 3

Items Agreed Upon by Over Seventy Percent of the Home Economics Extension Agents

Statements	SA	A	U	D	SD
1. Videotape is effective teaching medium for adults with lecture/demonstration.	18.5	67.4	12.0	2.2	--
4. Agent would recommend videocassette programs to county clientele.	15.2	63.0	18.5	2.2	1.1
9. People think videocassette is for entertainment and not for educational programs.	2.2	5.4	15.2	72.8	4.4
12. Videotape is effective to handle certain types of training for Extension agents.	43.5	55.4	--	1.0	--
14. Videotape is effective medium to get information about organization to county personnel	37.0	63.0	--	--	--
16. Allowing clientele to use videocassette program for individual use in the county Extension office would save agent program preparation time.	7.6	64.1	17.4	10.9	--
17. Adults will accept videotape as teaching medium when used with lecture/demonstration.	7.7	83.5	8.8	--	--
19. Agent is not comfortable using videotapes as resource materials.	1.1	6.5	8.7	67.4	16.3
23. Videocassette programs can provide flexibility in scheduling of educational programs.	8.7	65.2	16.3	8.7	1.1

Table 4

Items Agreed Upon by 41 to 70 Percent of the Home Economics Extension Agents

Statements	SA	A	U	D	SD
2. Videocassette programs for individual clients' use would not save agent consultation time.	10.9	37.0	25.0	27.2	--
3. Extension clientele will not accept videocassette programs.	--	7.6	30.4	56.5	5.4
5. People who cannot come to meetings will not use videocassette programs.	19.6	47.8	10.9	20.6	1.1
8. Live agent presentations are superior to videocassette programs.	12.0	34.8	26.1	26.1	1.1
10. Clientele's loss of agent contact due to videocassette use is a detriment to Extension image.	4.4	19.6	23.9	46.7	5.4
13. Videocassette programs can help Extension reach young adults not reached through meetings now.	4.4	52.2	29.4	13.0	1.1
15. Videocassette library in county office is more trouble than its worth.	--	7.6	27.2	62.0	3.3
18. Extension can reach people with no time for meetings with videocassette program.	4.4	42.4	29.4	21.7	2.2
20. Videotape is effective for reaching clientele only in small group setting.	8.7	41.3	12.0	37.0	1.1

Table 4 (Continued)

Statements	SA	A	U	D	SD
22. Videocassette programs are viable alternatives for reaching working women.	5.4	57.6	17.4	17.4	2.2

Agents' opinions varied sharply when comparing videocassette use with lectures or demonstrations to videocassette use alone. As indicated previously, most of the agents (85 percent) agreed that videotape was an effective medium when used with a lecture or demonstration, but only 40 percent agreed that videotape was an effective medium when used without another medium (see Table 3 and Table 5). A similar relationship occurred when agents were asked if adults would accept the videotape medium with a lecture or demonstration or videotape used alone. Over 91 percent of the agents agreed adults would accept it in a lecture demonstration situation, but only 39 percent indicated that adults would accept the videotape used without another medium. Thirty-eight percent of the agents were undecided about adults' acceptance of videotape without another medium. The agents differed also on how the videocassette programs would save them time, with approximately 72 percent indicating a savings in program preparation time, and only 27 percent indicating a savings in personal consultation time (see Table 3 and Table 4). Almost 62 percent of the agents agreed that Extension clientele would accept prepackaged

Table 5

Items Agreed Upon by 40 Percent or Less of the Home Economics Extension Agents

Statements	SA	A	U	D	SD
6. Non-Extension clientele will accept videocassette programs.	2.2	31.5	34.8	27.2	4.4
7. Videotape is effective for adults when used without another medium.	3.3	37.0	22.8	31.5	5.4
11. Adults will not accept videotape used alone.	--	22.8	38.0	38.0	1.1
21. Videocassette machine is too difficult for clientele to operate without assistance.	10.9	26.1	22.8	37.0	3.3

videocassette programs; yet, less than 34 percent agreed that non-Extension clientele would accept videocassette programs (see Table 4 and Table 5). In fact, the agents were almost equally divided on both sides of the attitude scale with regard to non-Extension clientele acceptance of videocassette programs. Approximately 34 percent indicated non-Extension clientele would accept videocassette programs, and almost 32 percent indicated non-Extension clientele would not accept videocassette programs. Approximately 35 percent of the agents were undecided on this issue (see Table 5). Over 46 percent of the agents indicated that live presentations by the Extension Agent were superior to videocassette presentations in presenting consumer

buymanship information. Sixty-five percent of the agents either "disagreed" or "strongly disagreed" that a videocassette library with prepackaged videocassette programs in the county Extension office for clientele to use at their convenience would be more trouble than it was worth.

Factor Analysis

Factor analysis using the varimax rotation to orthogonal factors was used to determine the validity of the instrument developed by the researcher. Six factors with eigenvalues greater than 1.0 were retained. The six factors retained 60.2 percent of the original variability (see Table 6). Items within each factor were determined by size of factor loading (.40 or above) and rationality of fit. The factors ranged in size from two to six items. All of the items were included in the factors.

Table 6

Factors with Eigenvalues, Percentages, and Cumulative Percentage of Variance

Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage of Variance
1	3.456610	15.0	15.0
2	2.872967	12.5	27.5
3	1.793369	7.8	35.2
4	1.642509	7.1	42.3
5	1.795470	7.8	50.1
6	2.301610	10.0	60.2

The factors, labeled according to the dimension they appeared to define, and the items in each are given in the following section. Factor loadings appear in the first column. In the second column is the number of the item on the questionnaire.

Factor I. Reaching clientele. Items in this factor dealt with the use of videocassette programs as a means for reaching clientele such as young adults, people who did not have time to go to meetings, and working women through flexible program schedules. Low scores indicated a positive attitude about the use of videocassettes to reach clientele.

Factor Loading	Item Number	Item
.508	Q 4	I would recommend prepackaged videocassette programs to my county clientele if the videocassettes were available.
.789	Q13	Videocassette programs can help Extension reach young adults who are not being reached through meetings now.
.587	Q18	The Extension Service could reach people who do not have time to come to meetings by having prepackaged videocassette programs for people to look at in the county Extension office.
.666	Q21	A videocassette machine is too difficult for clientele to operate without assistance from Extension personnel.
.789	Q22	The videocassette is a viable alternative for reaching working women with educational information in home economics.
.686	Q23	Prepackaged videocassette programs can provide more flexibility in the scheduling of educational programs.

Factor II. Agent and clientele contact. This factor included items dealing with the personal contact between the agent and clientele in the Extension educational process and the importance of that contact for education. A low score indicated an attitude that the education of clientele was not dependent upon direct contact with the Extension agent.

Factor Loading	Item Number	Item
.727	Q 3	Clientele who have used Extension information previously will not readily accept programs on videocassettes.
.628	Q 8	Live presentations by the Extension agent are superior to videocassette presentations in presenting consumer buymanship information.
.735	Q 9	People will think the new videocassette machines are for entertainment and will not use them for educational programs at home or in the county Extension office.
.723	Q10	The loss of clientele's personal contact with the agent due to the use of videocassette programs will be a detriment to Extension's public image.

Factor III. Extension organizational use of videotape. Items in this factor related to the use of videotapes by Extension for the operation of the organization. A low score on this factor indicated that the agent had a positive attitude about Extension's use of videotapes for getting organizational information to clientele and for the training of agents.

Factor Loading	Item Number	Item
.811	Q12	The videotape is effective for certain types of training for Extension agents in their own office.
.797	Q14	The videotape is an effective medium for Extension administration to use to get information about the organization to county personnel.

Factor IV. Videotape as a teaching medium. This factor included items dealing with videotape as a teaching medium when used with a lecture or demonstration by the agent. A low score on this factor indicated the agent had a positive attitude about using videotape as a teaching medium when combined with a lecture or demonstration.

Factor Loading	Item Number	Item
.673	Q 1	The videotape is an effective medium for adults when used with a lecture/ demonstration.
.799	Q17	Adults will accept the videotape as a teaching medium when used with a lecture/demonstration.

Factor V. Impact on extension programming. Items in this factor related to the impact of videocassettes on Extension programming in terms of the agent's program preparation time, agent's attitude toward videotape use, and the value of developing videocassette libraries in the county Extension offices. A low score on the factor indicated that the agent had a positive attitude about the impact of videocassettes on Extension programming.

Factor Loading	Item Number	Item
.511	Q15	A videocassette library with prepackaged videocassette programs and a videocassette machine in the county Extension office for clients to use at their convenience will be more trouble than it is worth.
.776	Q16	Allowing clients to use prepackaged videocassette programs for individual use in the county Extension office would save the Home Economics Extension Agent program preparation time.
.416	Q19	I do not feel comfortable using videotapes as resource materials for meetings.

Factor VI. Feasibility of clientele videocassette use. This factor included items which related to the feasibility of clientele using videocassettes for learning. Items dealt with agent consultation time and the acceptance and use of videocassettes by clientele. A low score on the factor indicated that the agent had a positive attitude about the feasibility of clientele using videocassettes for educational programs.

Factor Loading	Item Number	Item
.618	Q 2	Allowing clients to use prepackaged videocassette programs for individual use in the county Extension office would not necessarily save the Home Economics Agent personal consultation time.
.605	Q 5	People who cannot come to meetings held by Extension are not likely to come to the county Extension office to use prepackaged videocassette programs.
.528	Q 6	Clients who have not attended Extension programs previously will accept programs on videocassettes.

Factor Loading	Item Number	Item
.531	Q 7	The videotape is an effective teaching medium for adults when it is used without another medium.
.627	Q20	The videotape is effective for teaching clientele only in a small group setting.

Pearson Product Moment Correlation

The six factors identified in the factor analysis were used to test Hypothesis 1 which stated there would be no relationships among the attitudes of county Home Economics Extension Agents and certain personal characteristics such as age, years of service, education, previous knowledge and experience with videotape, and creative use of visual materials for programs. Results of the use of the Pearson product moment correlation procedure revealed significant results between (1) Factor IV, Videotape as a Teaching Medium, and the agent's creative use of visual materials (Question 28); (2) Factor V, Impact on Extension Programming, and the agent's experience with videotape programs (Total of Question 27); and (3) Factor VI, Feasibility of Clientele Videocassette Use, and the agent's familiarity with videotape formats (Total of Question 25), when the .05 level of significance was used (see Table 7). All of the significant correlation coefficients were negative. Thus, the results revealed that those agents who were less creative in their use of visual materials had a less positive attitude (higher score) about videotape as a teaching medium. Those agents who had less experience with videotape programs had a less positive attitude (higher sccre) about the impact of

Table 7

Relationships of Attitudes of Home Economics Extension Agents to Certain Personal Characteristics

Variable		Factor I Reaching Clientele		Factor II Agent/Clientele Contact		Factor III Organizational Use of Videotapes		Factor IV Videotape as a Teaching Medium		Factor V Impact on Extension Programming		Factor VI Feasibility of Clientele Use	
		r	p	r	p	r	p	r	p	r	p	r	p
Q30	Age	-.150	.157	-.054	.612	-.026	.806	-.141	.184	.051	.634	.094	.378
Q31	Years of Service	-.102	.337	-.032	.759	-.097	.360	-.150	.154	-.032	.762	-.056	.600
Q32	Education	-.015	.888	-.026	.806	-.014	.890	-.023	.825	-.020	.851	-.037	.728
Q33	Enrolled in Graduate Program	-.015	.886	-.055	.606	-.004	.970	.007	.950	-.011	.919	-.018	.861
Q35	Use of Present Equipment in County	.037	.739	-.014	.898	.147	.189	.041	.715	.038	.732	.066	.556
Q28	Creative use of visual materials	.075	.488	-.105	.334	.006	.956	-.266	.013*	-.111	.310	-.158	.144
Q25	Familiarity with videotape formats total	-.160	.130	-.134	.206	-.043	.682	-.010	.927	-.188	.074	-.256	.014*
Q26	Use of videotape formats total	-.184	.083	-.054	.612	.053	.624	-.066	.542	-.138	.196	-.183	.086
Q27	Experience with videotape programs total	-.139	.186	-.062	.559	-.031	.768	-.031	.719	-.290	.005*	-.162	.123

*$p < .05$

videocassettes on Extension programming. Also, those agents who were less familiar with the various videotape formats had a less positive attitude (higher score) about the feasibility of clientele use of videocassettes.

No significant relationships among attitudes and age, years of service, and education were found. Two other relationships which approached the .05 level of significance were the use of different videotape formats (Total of Question 26), and Factor I, Reaching Clientele (.08), and to Factor VI, Feasibility of Clientele Videocassette Use (.09). The relationships between familiarity with videotape formats (Total of Question 25) to Factor V, Impact on Extension Programming, also approached significance (.07). As with the other correlation coefficients, these were negative indicating that agents who had used fewer videotape formats were less positive (higher score) about the use of videocassette to reach clientele and were less positive (higher score) about the feasibility of clientele using videocassettes. Those agents who were less familiar with the videotape formats were less positive (higher score) about the impact of videocassette programs on Extension programming.

Phase II

The objectives of Phase II of the study were (1) to develop two 15-minute videocassette programs on selecting furniture for field testing; (2) to compare the attitudes toward videocassette use of a sample of county Home Economics Extension Agents whose clientele did and did not use the videocassette program; (3) to determine the

attitudes of the clients who participated in the program regarding the effectiveness of the videocassette as a learning medium; and (4) to determine if there were relationships among attitudes of clients and certain personal characteristics such as experience with Extension, education, residence location, age, whether or not they were employed, and whether or not they planned furniture purchases in the next six months. The hypotheses tested in Phase II of the study were these:

H_2 There will be no difference in the attitudes toward the use of the videocassette as an individualized learning medium between county Home Economics Extension Agents with responsibility in housing and home furnishings whose clientele did and did not use the videocassette programs.

H_3 There will be no relationship among the attitudes of clients who use the videocassette program(s) and certain personal characteristics such as age, education, residence, employment, planned furniture purchases, and experience with Extension.

The development and implementation of the videocassette program has been discussed previously in Chapter III. Thus, the discussion here will begin with the comparisons of agents' attitudes.

Test for Differences Between Control and Experimental Groups

When the factor analysis was applied to the Phase II questionnaire, the resulting factors did not correspond with the sex factors identified for the Phase I questionnaire. This result indicated that

the six factors were not valid estimates for comparing pre- and post-scores. Thus, it became necessary to compare the experimental and control groups on an iten-by-item basis. Several tests, including the one sample t test, the two-sample t test, and the chi square contingency test were used to test hypothesis 2 which stated there would be no difference in the attitudes toward the use of the videocassette as an individualized learning medium between Home Economics Extension Agents with responsibility in housing and home furnishings whose clientele did and did not use the videocassette programs.

One-sample t test for the experimental group. The one-sample t test was used in an item-by-item analysis to determine whether any differences occurred between responses on the Phase I and Phase II questionnaires completed by the 20 agents in the experimental group. The t-test analysis indicated significant differences on three items between responses on the two questionnaires when the .05 level of significance was used.

On item 7 of the questionnaire, regarding the effectiveness of videotape when used without another medium, the mean difference score was -.7 and the t-value -2.896, resulting in a .009 level of significance. The mean difference score indicated that the agents answered item 7 significantly more favorably on the Phase II than on the Phase I questionnaire. Examination of the data revealed that 11 of the 20 agents answered the question one to three steps more favorably than they had on the Phase I questionnaire, while eight agents answered the same way, and one agent answered two steps less favorably than he had on the Phase I questionnaire.

On item 14, which dealt with the effectiveness of videotape for Extension administration to get information about the organization to county personnel, the mean difference score was -.4 and the t-value -3.559, resulting in a .002 level of significance. Thus, the agents answered item 14 significantly more favorably on the Phase II than on the Phase I questionnaire. Eight agents answered the question one step more favorably, while 12 agents answered the question the same.

On item 17, regarding adults' acceptance of videotape as a teaching medium when used with a lecture or demonstration, the mean difference score was -.4 and the t-value -2.650, resulting in a p-value of .016. Item 17 was answered significantly more favorably on the Phase II than on the Phase I questionnaire. Ten agents answered item 17 one step more favorably on the Phase II questionnaire, while seven agents answered the same way, and two agents answered one step less favorably.

One-sample t test for the control group. The one-sample t test was also used in an item-by-item analysis to measure any differences between responses on the Phase I and Phase II questionnaires completed by the 20 agents in the control group. The t-test analysis indicated significant differences on three items between the two questionnaires when the .05 level of significance was used.

On item 1 of the questionnaire, regarding the effectiveness of the videotape as a teaching medium when used with a lecture or demonstration, the mean difference score was -.4 and the t-value -2.990, resulting in a .007 level of significance. The mean difference score

indicated that the agents answered item 1 significantly more favorably on the Phase II than on the Phase I questionnaire. Seven agents answered the question one to two steps more favorably, while 13 agents answered the question the same.

On item 12, which dealt with the effectiveness of videotape to handle certain types of training for Extension agents in their own offices, the mean difference score was -.2 and the *t*-value -2.179, resulting in a .042 level of significance. Thus, the agents answered item 12 significantly more favorably on the Phase II than on the Phase I questionnaire. Four agents answered the question one step more favorably, while 16 agents answered the question the same.

Two-sample t test. The two-sample *t*-test was employed to test hypothesis 2 for differences between the experimental and control groups by comparing the mean difference scores of the two groups. The *t* test revealed a significant difference between the mean difference scores of the two groups for items 14 and 15 on the questionnaire. Item 14 dealt with the effectiveness of videotape for getting organizational information from administration to county personnel. Item 15 dealt with the value of a videocassette library in the county Extension office versus the operation and management of the library by the local staff. It was negatively stated and indicated that a videocassette library with prepackaged videotape programs and a videocassette machine in the county Extension office for clients to use at their convenience would be more trouble than it was worth.

On item 14, the mean difference score for the control group was -.1 and the mean difference score for the experimental group was -.4.

The t-value was 1.994, resulting in a .053 level of significance. Thus, agents in the experimental group had a significantly more favorable attitude on the Phase II questionnaire about the effectiveness of the videotape for getting organizational information from administration to county personnel. Eight agents in the experimental group answered item 14 one step more favorably on the Phase II than on the Phase I questionnaire, while three agents in the control group answered one step more favorably, and one agent answered one step less favorably.

On item 15, the mean difference score for the control group was .30 and the mean difference score for the experimental group was -.30. The t-value was 2.368, resulting in a .023 level of significance. Thus, agents in the experimental group had a significantly more favorable attitude on the Phase II than on the Phase I questionnaire about the value or worth of videocassette libraries than did the agents in the control group. Examination of the data revealed that eight agents in the experimental group answered item 15 one to two steps more favorably, while seven agents in the control group answered item 15 one to two steps less favorably on the Phase II questionnaire.

One other item which approached the .05 level of significance was item 7 regarding the effectiveness of videotape as a teaching medium for adults when used without another medium. On item 7, the mean difference score for the control group was .0, while the mean difference score for the experimental group was -.7. The t-value was 1.965 resulting in a .057 level of significance. Thus, agents in the

experimental group had a more favorable attitude on the Phase II than on the Phase I questionnaire about the effectiveness of videotape as a teaching medium when used without another medium than did the agents in the control group. Eleven agents in the experimental group answered item 7 one to three steps more favorably on the Phase II questionnaire. Seven agents in the control group answered item 7 one to two steps more favorably, while four agents answered one to two steps less favorably on the Phase II questionnaire.

Chi-square contingency test. The chi-square contingency test was also used to test Hypothesis 2 for differences between the experimental and control groups. When the chi-square analysis was applied using the five ratings--"strongly agree," "agree," "undecided," "disagree," and "strongly disagree"--as row variables and "experiment" and "control" as the column variables, many of the analyses were unlikely to be valid. This outcome occurred because of limited variability in the responses resulting in more than 20 percent of the cells with expected frequencies less than five. The row variable was then changed so that "strongly agree" and "agree" became the variable "agree," while "disagree" and "strongly disagree" became the variable "disagree." When the chi-square analysis was applied again, the test was invalid for 16 of the 23 items also due to the lack of variability in responses to the items. Seven of the comparisons using the chi-square test were valid, but six produced no significant differences between the groups using the .05 level of significance.

The comparison of the control and experimental groups for item 7, regarding the effectiveness of videotape as a teaching medium for

adults when used without another medium, was significant using the chi-square analysis (see Table 8). Thus, at the .05 level of significance, there was a relationship between the group classification for agents and their response to item 7. Only four agents in the control group agreed with the statement on the Phase II questionnaire while 13 agents in the experimental group agreed with the statement on the Phase II questionnaire.

Table 8

Chi-Square Test for Relationship Between Group Classification and Response to Item 7 on Phase II Questionnaire

	Response to Item 7			
Group	Agree	Undecided	Disagree	Total
Control	4	7	9	20
Experimental	13	4	3	20

$X^2 = 8.58$ with 2 df

$p = .014 < .05$

Demographic Data for Clientele

A total of 223 people participated in the field test of the videocassette programs on selecting furniture. Data from 15 of them were not included in the descriptive or correlation analysis as their completed questionnaires were lost in the mail. Therefore, the

following data included information collected from the 208 completed questionnaires which were returned to the researcher.

Biographical data described the clientele according to age, education, sex, marital status, residence, occupation, whether or not they had children, whether or not they were employed, and whether or not they planned to purchase furniture (see Table 9). Most of the clientele were females (90.8 percent) who were married (71.4 percent) and had children (79.1 percent). Approximately 59 percent of the clientele were over 40 years old. Similar percentages of the clientele were high school graduates (28.9 percent), had some college training (26.5 percent), or were college graduates (27.5 percent).

Approximately half (52.2 percent) of the clientele were employed. Of those employed, over 38 percent were in business and professional positions, 29.8 percent in clerical positions, 25 percent in teaching positions, and 6.7 percent in labor positions. Over 62 percent lived in rural areas of North Carolina. When asked if they planned to purchase furniture in the next six months, 38.7 percent were undecided and 32.8 percent replied no.

Other demographic data collected about the clientele included their experiences with Extension, whether or not participation in the videocassette program was their first experience, and if not, how they had been involved previously (see Table 10). Clientele were also asked how they had heard about the program being offered by Extension.

Table 9

Summary of Biographical Data of Clientele Participating in Extension Videocassette Programs

Variable	Number	Percentage
Age		
40 Years and Under	84	40.6
Over 40 Years	123	59.4
No Response	1	
Education		
Eighth Grade or Above	15	7.4
High School Graduate	59	28.9
One or More Years of College	54	26.5
College Graduate	56	27.5
Graduate Degree	20	4.8
No Response	4	
Sex		
Male	19	9.2
Female	187	90.8
No Response	2	
Marital Status		
Married	147	71.4
Single	15	7.3
Separated-Divorced	17	8.3
Widow	27	13.1
No Response	2	
Children		
Yes	163	79.1
No	43	20.9
No Response	2	
Employment		
Yes	106	52.2
No	97	47.8
No Response	5	

Table 9 (Continued)

Variable	Number	Percentage
Residence		
Rural Area	129	62.6
Town of 25,000 or less	46	22.3
Town of 25,000 or more	31	15.0
No Response	2	
Plan Furniture Purchase in Next Six Months		
Yes	58	28.4
No	67	32.8
Undecided	79	38.7
No Response	4	

Table 10

Summary of Clientele Experience and Involvement

With the Agricultural Extension Service

Variable	Number	Percentage
First Experience with Extension		
Yes	40	19.8
No	162	80.2
No Response	6	
Previous Extension Involvement[a]		
Special Interest Meeting	110	52.9
Area Meeting	81	38.9
Workshop	111	53.4
Extension Homemakers Club	75	36.1
4-H Leader	13	6.3
Newsletter Mailing List	91	43.8
Other	26	12.5
How Client Heard About Program		
Newspaper	22	10.6
Radio	10	4.8
Word-of-Mouth	65	31.3
Local Furniture Retailer	4	1.9
Extension Homemaker Newsletter	50	24.0
Other Extension Newsletter	2	1.0
Other	20	9.6
No Response	35	16.8

[a]Numbers in percentage column total more than 100 percent, because respondents could mark more than one response.

Eighty percent of the clientele had been involved with Extension previously. Most of their previous involvement had been through attendance or participation in special interest meetings (52.9 percent), workshops (53.4 percent), or through a newsletter mailing list (43.8 percent). Only 36 percent of the clientele participating in

the videocassette programs were members of the Extension Homemakers organization. The major source of information about the program seemed to be word-of-mouth (31.3 percent) and the Extension Homemaker Newsletter (24.2 percent); 16.8 percent of the clientele did not respond to the question.

Descriptive Analysis of Clientele Attitudes

The questionnaire "Videocassette Attitude Survey For Extension Clientele" (see Appendix C) was used to assess clientele attitudes about the videocassette programs on selecting furniture and the use of the videocassette as a medium for learning in an individualized situation. Questions 1 through 5 and question 8 on the survey evaluated the program content, length, understandability, the amount of assistance given the viewer, and perception of knowledge gained. Approximately 64 percent of the clientele considered themselves confident of their ability to buy furniture prior to the program. Over 93 percent of the clientele expressed an increase in their confidence level after viewing the program. Most rated the programs as easy to understand (98.6 percent), as having the right amount of information (88.7 percent), and as being the right length (93.8 percent). Ninety-five percent indicated the program answered some or most of their questions about buying furniture (see Table 11).

The clientele were asked in an open-ended question to specify what information they found most helpful in the program. Most of the 109 respondents indicated the tests for construction and workmanship

Table 11

Clientele Evaluation of Videocassette Programs on Selecting Furniture

Variable	Number	Percentage
Q1 Previous Confidence Level of Ability to Make Wise Furniture Purchase		
Very Confident	20	9.7
Somewhat Confident	111	53.9
Undecided	30	14.6
Somewhat Less Confident	31	15.0
Not Confident at All	14	6.8
No Response	2	
Q2 Confidence Level of Ability to Make Wise Furniture Purchase After Viewing Program		
Much More Confident	109	52.4
Somewhat More Confident	86	41.3
Same Level Confidence	12	5.8
Undecided	1	.5
Q3 Amount of Information in Program		
Too Much Information	3	1.5
Not Enough Information	9	4.4
Right Amount of Information	181	88.7
Undecided	11	5.4
No Response	4	
Q4 Easy to Understand Program		
Yes	205	98.6
No	0	--
Undecided	3	1.4
Q5 Length of Program		
Too Long	8	3.8
Too Short	5	2.4
About Right	195	93.8

Table 11 (Continued)

Variable	Number	Percentage
Q8 Amount of Help From Program		
Answered Most Questions	122	58.9
Answered Some Questions	75	36.2
Answered Few Questions	8	3.9
Answered None of my Questions	2	1.0
No Response	1	

on wood furniture and the tests for workmanship and fabric construction on upholstered furniture. When asked what questions were not answered by the programs, the answers were quite varied. Most often mentioned were "none" (36), cost and price ranges (6), more information on fabrics, fiber content, cleaning finishes, and cleaning (5), choosing reputable dealer (1), and more information on types of padding (1).

Questions 6, 7, 9, and open-ended questions 10 and 11 asked clientele to describe their attitude of the videocassette as a means of receiving consumer buying information. Over 75 percent of the clientele indicated they liked the videocassette very much, and almost 85 percent indicated they would use it again if it were available in the county. Somewhat less than half of the clientele (45.4 percent) indicated they would learn more viewing the videocassette than they would in a meeting with 26.8 percent undecided about that issue (see Table 12). When asked what they liked most about the videocassette

Table 12

Clientele Attitude Toward Videocassette as Medium

For Receiving Consumer Buying Information

Item	Number	Percentage
Q6 Reaction to Videocassette for Receiving Buying Information		
Liked It Very Much	154	75.1
It's OK	41	20.0
Undecided	4	2.0
Rather Get Information Another Way	5	2.4
Not Like It at All	1	.5
No Response	3	
Q7 Would Use It Again if Available in County		
Yes	176	84.6
No	9	4.3
Undecided	23	11.1
Q9 Would Learn More in Meeting Than Viewing Videocassette		
Yes	57	27.8
No	93	45.4
Undecided	55	26.8
No Response	3	
Q10 Liked Most About Videocassette as Type of Learning Program (open-ended question)		
Short and Concise	43	20.6
Flexible and Convenient	28	13.5
Easy to Understand	29	13.9
Seeing Furniture as Discussed (Visiting Store)	18	8.6
No Interruptions	4	1.9
Repetition and Review	5	2.4
No Response	81	38.9

Table 12 (Continued)

Item		Number	Percentage
Q11	Liked Least About Videocassette as Type of Learning Program (open-ended question)		
	Not Able to Ask Questions	36	17.3
	Missed Personal Contact	10	4.8
	No "Hands On" Experience	10	4.8
	Technical Quality of Tape	8	3.8
	None	20	9.6
	Parking	1	.5
	No Response	123	59.1

as a type of learning program, the most frequent responses were: short and concise, flexible and convenient, and easy to understand. When asked what they liked least about the videocassette as a type of learning program, the most frequent responses were: not able to ask questions, none, missed the personal contact, and no "hands-on" experience.

Chi-Square Test for Relationships Among Clientele Attitudes and Selected Characteristics

The chi-square test was used to test Hypothesis 3 which stated there would be no relationship among the attitudes of clients who used the videocassette program(s) and certain personal characteristics such as age, education, residence, employment, planned furniture purchases, and experience with Extension. Each personal characteristic was tested for a relationship with each of the items on the survey.

A second residence characteristic was added by coding surveys according to county size. Those counties in which the population was less than 50,000 (rural) became A, and those counties in which the population was larger than 50,000 (nonrural) became B. Of the 223 clientele participating in the program, 153 were from rural counties, 70 were from nonrural counties. However, 15 surveys from a rural county were lost in the mail and not included in the data analysis. Thus, 138 surveys or 66.3 percent were from rural counties, and 70 surveys or 33.7 percent were from nonrural counties.

Most of the tests for relationships were invalid due to the lack of variability in the attitudes of the clients. The lack of variability created invalid cell frequencies beyond the accepted 20 percent level. Of the tests which were valid, four were significant beyond the .05 level.

The relationship between the age of the clients and their response to item 7 regarding whether or not they would use the videocassette as a way of obtaining information if it were available in the county office was significant, using the .05 level of significance (see Table 13). The clients who were over 40 years of age were more favorable toward the videocassette as a means of obtaining information than were those under 40 years of age. One hundred and ten clients (89.4 percent) answered "yes" to item 7, whereas 65 clients who were 40 years of age and under (77.4 percent) answered "yes" to the item.

Table 13

Chi-Square Test for Relationship Between Age of Clientele and Attitude Toward Use of Videocassette Library in County

	Item 7: Use of Videocassette Library in County			
Age	Yes	Undecided	No	Total
40 Years and Under	65	13	6	84
Over 40 Years	110	10	2	123

$X^2 = 5.82$ with 2 df
$p = .054 < .05$

There was also a significant relationship between age of clientele and attitude toward the amount of learning gained in a meeting as compared to the videocassette program (see Table 14). More of the clients (64) than expected who were "over 40" believed they would not learn more in a meeting than they did viewing the videocassette program, whereas the clients who were "40 and under" were fairly evenly divided among all three categories of responses.

When the size of the county was tested for relationship to clientele attitude, two significant results occurred also. The relationship between population size of the county and item 7 on the survey regarding clientele attitude toward the videocassette as a way of obtaining information if it were available in the county office was significant at the .05 level of significance (see Table 15). A higher

Table 14

Chi-Square Test for Relationship Between Age of Clientele and Attitude Toward Amount of Learning From Meeting Versus Videocassette Program

	Item 9: Learn More in Meeting Than Viewing Videocassette Program			
Age	Yes	No	Undecided	Total
40 Years and Under	24	29	30	83
Over 40 Years	32	64	25	121

$X^2 = 7.97$ with 2 df

$p = .019 < .05$

Table 15

Chi-Square Test for Relationship Between County Size and Attitude Toward Use of Videocassette Library in County

Item 1: Use of Videocassette Library in County	County Size		
	Rural	Nonrural	Total
Yes	122	54	116
Undecided	13	10	23
No	3	6	9

$X^2 = 6.08$ with 2 df
$p = .048 < .05$

percentage of those in rural counties (85 percent) indicated they would use the videocassette if available than did those in nonrural counties (77 percent).

The size of the county was also tested for relationship to clientele attitude toward the amount of learning gained in a meeting as compared to the amount of learning gained from viewing the videocassette programs (item 9 on survey). Those clients who lived in rural counties with a population under 50,000 were less likely to believe they would learn more in a meeting than they would viewing the videocassette program. Those clients who lived in nonrural counties were more evenly divided in their responses with 37.7 percent (26) of them indicating they would learn more in a meeting (see Table 16). Thus, there was a significant relationship between county size and attitude toward the amount of learning from a meeting as compared to the videocassette program beyond the .05 level of significance.

Two other relationships seemed to be occurring in the chi-square tests that had implications for reaching clientele with information about Extension programs. When age was tested for relationship to item 15 on how the client heard about the program on selecting furniture, a significant relationship ($p = <.000$) occurred although 35.7 percent of the valid cells had expected frequencies less than five. The means by which the largest percentage of the clients (47.9 percent) who were 40 years of age and under heard about the program was by word-of-mouth, whereas 42.4 percent of the clients who were over

Table 16

Chi-Square Test for Relationship Between County Size and Clientele Attitude Toward Amount of Learning From Meeting Versus Videocassette Program

Item 9: Learn More in a Meeting Than Viewing Videocassette Program	County Size		
	Rural	Nonrural	Total
Yes	31	26	57
No	69	24	93
Undecided	36	19	55

$X^2 = 6.24$ with 2 df

$p = .044 < .05$

40 years of age heard about the program through the Extension Homemakers Newsletter. When the characteristic of whether or not the clients were employed was tested for relationship to item 15 on how the client heard about the program on selecting furniture, a significant relationship ($p = <.001$) occurred although 35.7 percent of the valid cells had expected cell frequencies less than five. Of the clients who were employed, 50 percent had heard about the program by word-of-mouth, whereas 42.7 percent of the clients who were not employed had heard about the program through the Extension Homemakers Newsletter.

On the Phase II questionnaire completed by the experimental group, the agents were asked to provide additional information regarding their attitudes about the videocassette programs on selecting furniture, their attitudes toward the videocassette medium, and their assessment of some of the operational aspects when considering the development of libraries in the county Extension offices. Their responses to those items were expected to provide additional insight to the questions regarding the use of videocassette programs in the counties.

The agents generally had a favorable attitude about the videocassette program on selecting furniture. Approximately two-thirds of the agents agreed that the videocassette program was more effective than a live presentation (item 26) by the agent (60 percent) or a slide presentation (item 27) (65 percent). All agreed that preparing the program was good use of the specialist's time (item 29). Ninety-five percent of the agents indicated the program contained an adequate amount of information (item 32). When asked for suggestions for improvement (item 33), the most often mentioned comments were the following: (a) include samples for clients to examine (5), (b) excellent as is (3), (c) improve technical aspects of taping, such as better color or eliminate background noise (2), (d) develop tapes on each area, such as finish, construction, fabrics (1), and (e) use with a live presentation (1). When asked if they would continue to use the videocassette programs on selecting furniture when counties do get the equipment (item 25), 95 percent indicated they would.

Agents were also asked about their attitudes toward the videocassette method itself and their reactions to conducting the study. Approximately two-thirds of the agents (65 percent) rated the videocassette as better than other methods of teaching (item 28). Ninety percent indicated they would recommend videocassette programs used in individualized learning situations to other agents. Eighty-five percent stated that the liked using the videocassette machine (item 34). Eight agents cited ease of operation as the characteristic they liked most about the videocassette machine; three agents mentioned convenience. Technical or operational problems with equipment were most often cited as "liked best" (7), others cited problems of borrowing equipment (3), and bulkiness and weight of the machine (2).

Almost 79 percent of the programs were conducted at the Extension office, ten percent at a furniture store, and the other 11 percent at the community college, the local school, or at the Extension Homemaker Center. Most often cited as the most difficult or frustrating part of overseeing the study (item 36) were machine problems, such as getting it, hooking it up, and adjusting it (7); the confinements set by the guidelines to ensure as much control from county to county as possible (5); and "nothing" (3). Positive audience reaction, meeting new clientele, giving working people an opportunity to see the program, and positive young adult reactions were cited by 12 of the 20 agents in the experimental group as the most rewarding part of overseeing the study (item 37). Next on the list was the fact that they had experienced a new teaching technique and had learned to operate a new

machine (4). When asked about their attitude toward videocassette programs after participating in this study (item 45), 90 percent indicated a somewhat or much more favorable attitude toward videocassette programs.

About 85 percent of the agents indicated they had made from zero to ten presentations during the last month (item 42). Of the 55 percent who thought some of their presentations could be conducted on prepackaged videocassette programs (item 43), the numbers ranged from one to five on such topics as gardening, refinishing furniture, nutrition for different groups such as senior citizens, babies, young mothers, teen agers; weight control, preparing for widowhood, comparative shopping, storage and organization problems, hemming techniques, cooking techniques, and weatherization.

Most of the agents had used newspaper articles (18), word-of-mouth (18), radio spots (14), or individual contacts (14) to advertise the programs (item 31). Most ranked their individual contacts as the most important source, the Extension Homemakers Newsletter as second and radio, newspaper and word-of-mouth as third in effectiveness in getting information to the public.

Six items on the questionnaire dealt with the concerns involving the feasibility of developing videocassette libraries in the county Extension offices. These items are reported in Table 17. Seventy-five percent of the agents indicated their clientele would be "very" or "somewhat" responsive to using videocassette programs if available (item 30). Clients believed to be most likely to use them were the

Table 17

Agent Responses to Items Relating to the Feasibility of Developing Videocassette Libraries in County Extension Offices

Item		Number	Percentage
Q30	Responsiveness of Clientele to Videocassette Programs if Available		
	Very Responsive	5	25.0
	Somewhat Responsive	10	50.0
	Not Responsive at All	3	15.0
	Undecided	2	10.0
Q38	Clients Most Likely to Use Videocassette Programs on Home Economics		
	Older Extension Homemakers	1	5.6
	Young Extension Homemakers	4	22.2
	General Public	7	38.9
	Working Women	4	22.2
	4-H Leaders	1	5.6
	Others	1	5.6
	No Response	2	
Q39	Use of Videocassette Library on Home Economics Topics by Clientele in County		
	Yes	10	52.6
	Maybe	6	31.6
	No	1	5.3
	I Don't Know	2	10.5
	No Response	1	

Table 17 (Continued)

Item		Number	Percentage
Q40	Amount of Time for Someone to "Man" Library		
	All the Time	4	20.0
	As Needed	16	80.0
	None of the Time	0	--
Q41	Who to "Man" Library		
	Extension Agents	6	37.5
	Extension Secretary	6	37.5
	Extension Media Technician	3	18.8
	Other	1	6.2
	No Response	4	
Q44	Types of Information Presented Effectively on Videocassette[a]		
	Skills on How to Do-It-Yourself	18	90.0
	Selection and Buying Information	19	95.0
	Trends and Update Information	17	85.0
	None of the Above	0	--
	Other	0	--

[a]Numbers in percentage column total more than 100 percent, because respondents could mark more than one response.

general public (38.9 percent), young Extension Homemakers (22.2 percent), and working women (22.2 percent) (item 38). Over 50 percent of the agents indicated their clientele would use videocassette programs on home economics topics (item 39). The agents agreed that the library could be manned (item 40) as needed by agents (37.5 percent) or secretaries (37.5 percent). They also thought selection and buying information, skills on how to do-it-yourself, trends, and the updating

of information were appropriate types of information to include (item 44).

Summary

A summary of the results from the testing of the hypotheses in this study is presented in Table 18. Testing of Hypothesis 1 which stated there will be no relationships among the attitudes of county Home Economics Extension Agents to certain personal characteristics as age, years of service, education, previous knowledge and experience with videotapes, and use of visual materials for programs indicated that there were no significant relationships among agent attitudes and the personal characteristics of age, years of service, and education. However, there was a significant negative relationship between agent attitudes toward the use of videocassettes as an individualized learning medium in terms of Videotape as a Teaching Medium (Factor IV) and their creative use of visual materials. The less creative the agents in using visuals, the higher their scores on Factor IV or the less positive their attitudes on that factor. There was also a negative significant relationship between agent attitudes toward the use of the videocassette as an individualized learning medium in terms of its Impact on Extension Programming (Factor V) and experience with videotape programs. Those agents who had used videotapes less often were more apt to be less positive (score higher) in their attitudes about the impact of the videocassette on Extension programming than those agents using videotape more often. A negative

Table 18

Results from Hypotheses Testing

Hypothesis	Variable	Status
1. Relationship Among Agent Attitudes and Personal Characteristics	Age	Not Rejected
	Years of Service	Not Rejected
	Education	Not Rejected
	Knowledge of Videotapes	Rejected for Factor VI
	Experience with Videotapes	Rejected for Factor V
	Creative Use of Visual Materials	Rejected for Factor IV
2. Difference in Attitude of Agents Who Do and Do Not Use Videocassette Programs	Control/Experimental: Items 1-23 on Questionnaire	Rejected for Item 7 Rejected for Items 14, 15
	Control: Phase I and Phase II Differences	Rejected for Items 1, 12, 20
	Experimental: Phase I and Phase II Differences	Rejected for Items 7, 14, 17
3. Relationship Among Clientele Attitudes and Personal Characteristics	Age	Rejected for Items 7, 9
	Education	Not Rejected
	Residence	Not Rejected
	County Size	Rejected for Items 7, 9
	Employment	Not Rejected
	Experience with Extension	Not Rejected
	Planned Furniture Purchases	Not Rejected

significant relationship also occurred between agent attitudes with regard to the Feasibility of Clientele Videocassette Use (Factor VI) and their own familiarity with videotape formats. Agents were more negative (higher score) about the feasibility of clientele using videocassette for individualized learning when they were less familiar with the videotape formats. Thus, Hypothesis 1 was rejected for the relationships among Factor VI and knowledge of videotape formats, Factor V and experience with videotape programs, and Factor IV and creative use of visual materials.

The one-sample and two-sample *t* tests and the chi-square contingency test were used in an item-by-item analysis to test Hypothesis 2 which stated there will be no difference in the attitude toward the use of the videocassette as an individualized learning medium between county Home Economics Extension Agents with responsibility in housing and home furnishings whose clientele did and did not use the videocassette programs. The one-sample *t* test was used in an item-by-item analysis to determine differences between responses of the experimental group on the Phase I and Phase II questionnaires. Items 7, 14, and 17 had significant differences in responses to the two questionnaires. Eleven of the 20 agents answered item 7, regarding the effectiveness of videotape as a teaching medium when used without another medium, one to three steps more favorably on the Phase II than on the Phase I questionnaire. Eight agents answered item 14 which dealt with the effectiveness of videotape to get organizational information from Extension administration to county personnel, one step more favorably on the Phase II questionnaire, whereas 12 agents

answered the item the same way on both questionnaires. Ten agents answered item 17, regarding adults' acceptance of videotape when used with a lecture or demonstration, one step more favorably on the Phase II questionnaire; seven agents answered the same way, and two agents answered one step less favorably.

The one-sample t test was also used to determine differences between responses of the control group on the Phase I and Phase II questionnaires. Items 1, 12, and 20 had significant differences in responses on the two questionnaires. Seven agents answered item 1, regarding the effectiveness of videotape as a teaching medium when used with a lecture or demonstration, one to two steps more favorably on the Phase II than on the Phase I questionnaire, whereas 13 agents answered item 1 the same way on both questionnaires. Four agents answered item 12, which dealt with the effectiveness of videotape to handle certain types of training for agents in their own offices, one step more favorably on the Phase II than on the Phase I questionnaire, and 16 agents answered the item the same way on both questionnaires. Six agents answered item 20, which dealt with the effectiveness of videotape for teaching clients only in a small group, one to three steps less favorably on the Phase II than on the Phase I questionnaire, and 13 agents answered the same way on both questionnaires.

The two-sample t test was employed to test for differences between the experimental and control groups. The t test revealed a significant difference between the mean difference scores of the two groups on item 14 which dealt with the effectiveness of videotape in

getting organizational information to county personnel and item 15 which dealt with the overall value of a videocassette library in the county Extension office. Eight agents in the experimental group answered item 14 one step more favorably on the Phase II than on the Phase I questionnaire, whereas three agents in the control group answered one step more favorably and one agent answered one step less favorably. Eight agents in the experimental group answered item 15 one to two steps more favorably, whereas seven agents in the control group answered one to two steps less favorably on the Phase II than on the Phase I questionnaire. Thus, agents in the experimental group were more likely to believe that a videocassette library in the county Extension office would not be more trouble than it was worth than were the agents in the control group.

The chi-square contingency test used in an item-by-item analysis indicated a significant difference between the control and experimental groups to item 7 of the Phase II questionnaire, regarding the effectiveness of videotape used without another mediu. Thirteen agents in the experimental group agreed with item 7, while only four agents in the control group agreed with item 7. Thus, those agents who had experienced using the videocassette program without another medium were more convinced of its effectiveness when used alone than were those agents in the control group. Thus, Hypothesis 2 was rejected for differences between the mean difference scores of the experimental and control groups on items 14 and 15 of the questionnaire, and for differences between the experimental and control groups on item 7 of the Phase II questionnaire.

Hypothesis 3 stated there will be no relationships among the attitudes of clientele who use the videocassette programs and certain personal characteristics, such as age, education, residence, employment, planned furniture purchases, and experience with Extension. The chi-square test was used to analyze the data. The analysis indicated significant relationships among clientele attitudes with regard to the videocassette as a medium for receiving consumer buying information (Item 7) and with regard to the amount of learning gained from a meeting as compared to the videocassette (Item 9) and age of clientele and county size. Clients who were over 40 years of age were more likely to indicate that they would use the videocassette programs if available in the county, whereas clients who were 40 years of age and under were more skeptical. Clients who were over 40 years of age also were more likely to indicate they would not learn more from a meeting than from the videocassette program than were clients who were 40 years of age and under.

Clients who lived in rural counties were more likely to indicate that they would use the videocassette programs if available in the county than were clientele from nonrural counties. Clients from rural counties were also more favorable about the amount of learning gained from the videocassette. A higher percentage of the clientele from rural counties than from nonrural counties indicated they would not learn more from a meeting than from the videocassette program. Thus, Hypothesis 3 was rejected for relationships among clientele attitude as reflected in items 7 and 9 and the personal characteristics of age and size of county.

Discussion of Findings

The results of this study in regard to differences between the control and experimental groups were based on the attitude change scores which occurred between Phase I and Phase II of the study. A review of the Phase I questionnaire revealed that over 60 percent of the agents had expressed favorable attitudes on 13 of the 23 items relating to the use of videocassettes for teaching. Since there was limited variability in the agents' attitudes prior to the experiment, and attitudes were already favorable, changes in attitudes resulting from the use of videocassettes in the experimental group would be likely to be small, and therefore, not produce significant results.

Accurate measurement of changes was also hampered by the instrument which was developed by the researcher. Factor analysis revealed that the 23 items on the instrument accounted for only 60 percent of the variability. All agents may not have had a clear understanding of the term videocassette equipment. Definition of the term on the Phase I questionnaire may have clarified this issue. Two agents who were selected for the experimental group had videocassette equipment confused with the automatic slide cassette tape equipment. Such confusion could explain the change in variability to 72 percent on the Phase II questionnaire when factor analysis was applied again and agents were more informed.

Reaching clientele was clearly defined as a major factor in the attitudes of agents to videocassette use as it accounted for approximately 25 percent of the variability in the factor analysis. The

other major factors were not as clearly identified. Results from the Phase II questionnaire revealed agent concerns about their technical expertise and the operation of the equipment. The research may have overlooked a very important factor influencing attitudes of videocassette use. It was assumed that agents with responsibility in housing and home furnishings used visual equipment more than some other areas of home economics, because live visuals are bulky or not readily available, and that those agents would feel more comfortable using visual equipment. Observations and problems identified by the agents indicated that that assumption was false. Only one question on the instrument addressed that factor.

The second factor analysis revealed that items were not readily identified with the same factor as they had been on the tionnaire. The invalidity problems of the instrument meant that item-by-item analysis of data using less powerful tests had to be used. Thus, the tests may not have been powerful enough to determine all the differences or changes that could have occurred. This was a problem identified by Campeau (1967) when she reviewed the research on television.

The unavailability of videocassette equipment limited the sample selection from the total population of counties in the state. Only two of the 101 county Extension offices had videocassette recorder/playback units in their offices. The sample selection was made from a population of 31 counties who had indicated on the pretest that videocassette equipment could be borrowed from the local school

system or community college. The sample size was limited to 20 counties to facilitate equipment use from North Carolina State University if equipment were unavailable locally. Four 1/2" VHS videocassette recorder/players were made available to counties who were unable to borrow equipment locally.

The unavailability of equipment limited the time frame of the study. Since most of the equipment was borrowed, it could only be used for a short period of time, such as one day. It would have been more ideal to have had the equipment available for several days to create a more realistic setting for use in the Extension office.

Eleven counties shared the four VHS videocassettes from North Carolina State University. Eight counties borrowed 1/2" VHS, 1/2" Beta, or 3/4" videocassette recorders/players locally. Thus, the equipment variable was not totally controlled in the study. The implications of the lack of equipment control is not known. Ease of operation should have been similar among the 1/2" VHS, 1/2" Beta, and 3/4" cassette playback units. There would have been a difference in portability since the 3/4" equipment is larger and heavier. Several agents identified the problems of adjusting, operating, and transporting equipment as frustrations of the study. The direct effect these problems may have had on their total attitude is not known.

Technical quality was identified by both agents and clientele as factors they "liked least" about using the videocassettes. Most of the technical problems were related to the equipment being used in the county, not the quality of the videocassette sent to the county.

Adjustments for color, sound, and tracking were created by local equipment, but were assumed to be problems of the original production. Thus, there was a gap in the knowledge of the agent about the equipment capabilities.

Thus, quality of program content and quality of production became added restraints placed on this type of program. The same standards may not always be applied by agents to their own live presentations. Comments on the Phase I questionnaire pointed to this factor more clearly. The agents would qualify their answers with quality control statements. Thus, quality of production may be identified as another factor of variability not identified prior to this study.

The results and findings of this research study were similar to those of some research studies and different from others. Marshall (1977) found no relationship among personal characteristics of agents, such as age and experience with television, and attitudes toward the use of videotape for in-service training. She did find a negative significant relationship among years of service and attitude. The present study found no significant relationship between age or years of service and attitudes; however, a negative significant relationship was found between experience with videotapes and attitudes about their use by Extension.

The evaluations made by the clientele participating in the study supported the research findings of Carpenter and Greenhill (cited in Wilkinson, 1980), Kohlmeyer (1974), Little and Hungeford (1972),

Trent and Dierking (1975), and Warwick and Ravin (1975) that the medium of television can be effective when used alone to teach skills or factual information. The findings of Ball and Bogatz (1970) and the findings from the study of public service announcements at Stanford University ("Teaching Children," 1974) were also supported, although those studies used television alone to teach children. Although the subjects in this study were adults, the implications regarding the effectiveness of television are applicable.

Recommendations regarding length of the lesson made by Costello and Gordon (1965) were appropriate according to the evaluations made by the clientele. Lack of opportunity to ask questions was cited by several clientele as a flaw in the videocassette use. This response by clientele seemed related to the findings of Crow (1977) that absence of feedback did not affect learning, although it was significant when teaching advanced or complex materials.

This study also clearly reflected the concerns of Schramm (1971) regarding the control difficulties involved in conducting research on media. It was difficult to control all of the relevant variables and make the study as realistic as possible within the educational setting of Extension educational programs. The researcher placed high priority on creating a setting typical for Extension since the Extension "classroom" is much less structured than is the school classroom.

In spite of the limitations, the study did produce some useful information about videocassette use by the North Carolina Agricultural Extension Service.

The Home Economics Extension Agents who participated in this study generally indicated more favorable attitudes toward the videocassette medium used in an individualized situation after experiencing it. They seemed to exhibit objective and professional attitudes when evaluating the educational value of the videocassette medium, and considered clientele responses in their evaluation as well as their own attitudes regarding its usefulness to their total program. The more favorable attitudes could also be the result of their inclusion in the limited population group from which the experimental group was selected. Those agents who were more professional and more conscientious would make the effort to locate equipment locally.

It was interesting to note that two of the three items on the questionnaire for which significant differences were found between the control and experimental groups had particular relevance to this study--item 7 regarding the effectiveness of the videotape medium used without another medium, and item 15 regarding the overall value of a videocassette library in the county office. The researcher believed the differences occurred as a result of participation in the study and not by chance alone. The pre- and postscore comparisons of the control and experimental groups also seemed to support the findings of difference between the two groups. The significant mean difference scores for the control group were the same as or smaller than the significant mean difference scores for the experimental group. Of the mean difference scores for the control group, two changes were positive or more favorable, and one was negative or

less favorable. Of the mean difference scores for the experimental group, all three changes were positive or more favorable. Thus, all changes were in the same direction, and the changes occurred on items which had more relevance to the study than did the items on which the control group changes occurred.

One program used one day is not a true indication of the effectiveness of the system or of clientele use and acceptance. Videocassette libraries may not be the best method of reaching young adults. Those who participated in this study were somewhat less responsive than older adults to using videocassette programs on an individualized basis if they were available in the county, and were unsure about the amount of learning they would receive.

Yet, the clients who participated in the study were generally very favorable of the program and the medium itself. They indicated they would use the videocassette as a way of obtaining information if Extension had it available in the county offices. The clients perceived a gain in knowledge using the videocassette without another medium of instruction. Thus, prepackaged videocassette programs could be an effective medium for teaching, from an Extension viewpoint, since clientele perception of knowledge gain is the major assessment by which Extension program efforts are measured. The implications about the effectiveness of the videocassette used in an individualized learning situation to teach adults might have application to other Extension program areas such as 4-H and agriculture which, like home economics, are presently using videotapes effectively with lectures or demonstrations.

This study provided developmental research information as a basis for further investigation of the use of videocassette libraries in the county Extension offices. Although the sample of agents and clients was a limited one, there did appear to be support for the consideration of videocassette libraries in the county Extension offices as a feasible method for disseminating information to the general public.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

The purpose of this study was to determine the feasibility of developing videocassette library centers in the local county offices of the North Carolina Agricultural Extension Service for clientele use. Specific objectives of the study were (1) to determine the attitudes of North Carolina County Home Economics Extension Agents with responsibility in housing and home furnishings toward the use of videocassettes as an individualized learning medium for clientele; (2) to determine whether there were relationships among attitudes and selected personal characteristics of the Home Economics Extension Agents, such as age, years of service, education, previous knowledge and experience with videotapes, and their creative use of visual materials for programs; (3) to develop two 15-minute videocassette programs on selecting furniture--one on selecting wood furniture, and one on selecting upholstered furniture; (4) to compare the attitudes toward the use of videocassettes of a sample of County Home Economics Extension Agents with responsibility in housing and home furnishings whose clientele did and did not use the videocassette program in an individualized learning situation; (5) to determine the attitudes of the clientele who used the videocassette as an individualized learning medium regarding its usefulness; and (6) to determine if there were relationships among attitudes of clientele

and certain personal characteristics, such as experience with Extension, education, residence location, age, employment, and planned furniture purchases.

The study was conducted in two phases. During Phase I, a survey was conducted of Home Economics Extension Agents with responsibility in housing and home furnishings to determine their attitudes toward videocassette use in the county. Phase II included the development, use, and evaluation of two videocassette programs on selecting furniture and the assessment of agent and clientele attitudes regarding the use of videocassettes for receiving consumer buying information.

In Phase I of the study, a questionnaire using a five-response Likert scale was developed and pilot tested by the researchers, revised, and mailed to the 97 counties which had liaison housing and home furnishings agents. Descriptive analysis techniques were used to summarize the demographic and attitudinal data. A factor analysis was made of the 23 items on the questionnaire, resulting in the identification of six factors. Using the factors derived from the factor analysis, the Pearson product moment correlation procedure was used to analyze the relationships among agents' attitudes and certain personal characteristics.

In Phase II of the study, two videocassette programs on selecting furniture were developed and filmed. The videocassette programs and a clientele attitude survey instrument were pilot tested and revised for use in the study. A stratified random sampling procedure was used in the selection of the counties for participation in the

study to ensure representativeness by region and population throughout the state. The experimental and control groups were each composed of seven counties for the coastal plain, seven from the piedmont, and six from the mountain regions of the state with the population strata selected proportionately from rural counties defined as those with a population below 50,000, and nonrural, defined as those above 50,000. The 20 counties in the experimental group were selected by the stratified random method from the 31 counties who had indicated on the Phase I questionnaire that they could borrow videocassette equipment locally.

The 20 agents in the experimental group conducted the videocassette study by making the program available to the general public for one day during a prescribed five-week period. A second population group in Phase II of the study were the adults in the 20 counties who responded to the recruitment procedures of the agents in the experimental group. Descriptive analysis was again employed to summarize demographic and attitudinal data.

The agents in the experimental and control groups completed the Phase II questionnaire. A factor analysis made on the Phase II questionnaire did not correspond with the factor analysis of the Phase I questionnaire so an item-by-item analysis using the one-sample and two-sample t tests and the chi-square contingency test were used to determine differences between the control and experimental groups. The chi-square test of association was employed to examine relationships among clientele attitudes and selected personal characteristics.

Findings

Phase I

Over 70 percent of the agents who responded to the questionnaire had the title of Home Economics Extension Agent. The majority were 21 to 30 years of age or 41 to 50 years of age with zero to ten or 16 to 20 years of service. Over 90 percent had coursework beyond the bachelor's degree or a master's degree. Their knowledge and use of the various videotape formats were limited. Over three-fourths of them were familiar with or had used only one videotape format, the reel-to-reel, which is presently located in the county Extension offices. Their use of videotapes was primarily limited to administrative briefings, individual agent training, and small group use with a lecture of demonstration.

Over 70 percent of the agents expressed similar attitudes toward nine of the items on the Phase I questionnaire. All agents agreed that videotape was effective for providing organizational and personnel information, and 99 percent agreed that videotape was effective for certain types of individual agent training. Most agents (85 percent) indicated that videotape was effective when used with a lecture or demonstration. Only 39 percent of the agents thought videotape was effective when used alone or that it would be accepted by adults when used without another medium.

A factor analysis using the varimax rotation was made of the items on the Phase I questionnaire. Six factors were retained, ranging in size from two to six items. The factors were labeled as

Reaching Clientele, Agent and Clientele Contact, Extension Organizational Use of Videotape, Videotape as a Teaching Medium, Impact on Extension Programming, and Feasibility of Clientele Videocassette Use.

The Pearson product moment correlation procedure was used to test Hypothesis 1 to determine the relationships among agents' attitudes and certain personal characteristics. The analysis revealed a negative significant relationship between the agents' attitudes about Videotape as a Teaching Medium (Factor IV) and the agents' creative uses of visual materials, a negative significant relationship between the agents' attitudes about the Impact on Extension Programming (Factor V) and the agents' experience with videotape programs, and a negative significant relationship between the agents' attitudes about the Feasibility of Clientele Videocassette Use (Factor VI) and the agents' familiarity with the videotape formats. Thus, those agents who had less knowledge and experience with videotapes or were less creative in their use of visual materials had a less positive (higher score) attitude about videocassette use as related to Factor IV, Factor V, and Factor VI. There were no significant relationships among age, years of service, or education and agents' attitudes.

Phase II

A factor analysis made on the Phase II questionnaire indicated that the six factors did not correspond on the two questionnaires and were not appropriate estimates for comparing the Phase I and Phase II questionnaires. An item-by-item analysis using the one-sample

and two-sample t tests and the chi-square contingency test was used to test Hypothesis 2 for differences between the experimental and control groups.

The t-test analysis indicated that agents in the experimental group had significantly more favorable attitudes about the effectiveness of the videotape medium when used alone and about the effectiveness of the videotape for getting organizational information to the county after participating in the study. The agents in the experimental group also had significantly more favorable attitudes about the acceptance of the videotape by adults when used with a lecture or demonstration after participating in the study. The t-test analysis indicated that agents in the control group had significantly more favorable attitudes about the effectiveness of the videotape medium when used with a lecture or demonstration and about the effectiveness of the videotape to handle certain types of training for agents in their own offices on the Phase II than on the Phase I questionnaire. Agents in the control group also expressed a less favorable attitude about videotapes being effective for teaching clientele only in small groups on the Phase II than on the Phase I questionnaire.

The two-sample t test revealed a significant difference between the mean difference scores of the control and experimental groups with regard to the effectiveness of videotapes for organizational use and with regard to the overall value of a videocassette library in the county Extension offices. Agents in the experimental group were more likely than the agents in the control group to believe that

videotapes were effective for getting organizational information to county personnel. Agents in the experimental group were also more likely than the agents in the control group to believe that a videocassette library in the county Extension offices would not be more trouble than it was worth.

The chi-square test indicated a significant relationship at the .05 level of significance between the experimental and control groups and their attitudes about the effectiveness of the videotape medium when used without another medium. The agents in the experimental group were more favorable toward the effectiveness of the videotape when used without another medium than were the agents in the control group.

Thus, Hypothesis 2 was rejected based on the significant difference in attitudes between the control and experimental groups for the item about the overall value of a videocassette library in the county Extension office and about the effectiveness of the videotape medium when used without another medium.

Data were collected from 208 clients who participated in the videocassette programs in the 20 counties. Most clients were females (90.8 percent) who were married (71.4 percent) and had children (79.1 percent). Approximately 59 percent of them were over 40 years of age. The clients were high school graduates (28.9 percent), had some college training (26.5 percent), or were college graduates (27.5 percent). Approximately half of the clients were employed. Sixty-six percent were from rural counties, and 34 percent were fron nonrural counties.

Over 80 percent of the clientele had been involved with Extension previously through attendance at special-interest meetings or workshops, or through a newsletter mailing list. Only 36 percent of the clientele were members of the Extension Homemakers Clubs. Over half of the clientele (64 percent) considered themselves confident of their ability to buy furniture prior to the program. However, 93 percent expressed an increase in their confidence level after viewing the program. Most rated the videocassette programs as easy to understand, as having the right amount of information, and as about the right length. Ninety-five percent had some or most of their questions about buying furniture answered.

Over 75 percent of the clients indicated they liked the videocassette very much, and almost 85 percent indicated they would use it again if it were available in the county. Most indicated they liked the videocassette as a type of learning, because it was short and concise, flexible and convenient, and easy to understand. The shortcomings cited by clients included not being able to ask questions, and the lack of personal contact and the "hands-on" experience provided by meetings.

An item-by-item chi-square test of association was used to determine relationships among clientele attitudes and certain personal characteristics. The chi-square test indicated significant relationships between age of clientele and county size and clients' attitudes about their use of the videocassette if available in the county and about their perception of the amount of learning acquired

from the videocassette when compared to a meeting. The clients who were over 40 years of age were significantly more favorable than those 40 years of age and under about the videocassette as a means of obtaining information, and indicated they would use the videocassette again if it were available in the county. Clients over 40 years of age believed they would not learn more in a meeting than they did viewing the videocassette program. Clients from rural counties were found to have more favorable attitudes than those from nonrural counties about using videocassettes if they were available in the county, and were also significantly more favorable toward videocassettes for learning by more often indicating they would not learn more in a meeting.

The agents in the experimental group who completed the Phase II questionnaire responded to attitudinal questions regarding the videocassette programs, the videocassette medium, and its use in the county. Most of the agents had favorable attitudes about the videocassette programs on selecting furniture and the amount of information included in them. Ninety percent of the agents indicated they would recommend videocassette programs used in an individualized learning situation to other agents, and 95 percent indicated they would use the programs when they had the equipment. Ease of operation and convenience were cited as "most liked" elements of using the videocassette machine, and positive audience response was cited as the most rewarding aspect of conducting the program. Ninety percent of the agents indicated they had a more favorable attitude toward videocassette programs since participating in the study.

Newspaper, word-of-mouth, radio spots, and individual contacts were the most often used recruitment procedures. Three-fourths of the agents thought their clientele would be responsive to videocassette programs, and half indicated they thought their clientele would use them for home economics information. Most agents indicated selecting and buying information, skills on how to do-it-yourself, and trends and the updating of information as appropriate to include on videocassettes for individualized use.

Recommendations for Future Research

As a consequence of the results reported in this study, some recommendations can be made for future research.

1. In view of the limitations of the subject selection in this study, it is recommended that the study be replicated with agents who have agriculture, 4-H, community rural development, as well as home economics responsibilities.
2. Due to lack of variability in responses on the attitude questionnaire, it is recommended that the instrument be revised or other instruments be considered for assessing attitudes of agents toward videocassettes.
3. The effectiveness of the videocassette for learning was measured in this study by the learner's perception of knowledge gained. It is suggested for future research that a comparative-effectiveness study be conducted to compare videocassettes and live presentations using different

subject matter topics and different groups. A study of this type could provide answers to the types of information best suited for dissemination through videocassettes.

4. To more fully answer the question of the effectiveness and impact of videocassette libraries on the total Extension program, a pilot study could be conducted by providing videocassette programs on a variety of subject matter topics in all program areas of Extension in a selected number of counties throughout the state for a period of six months to one year. Descriptive information could be collected regarding amount of use, types of topics most used, characteristics of clientele using videocassettes, future programs to include on videocassettes, operation and maintenance of the system, technical and personnel support needed at the state and county levels to make videocassette libraries a workable method of information dissemination.

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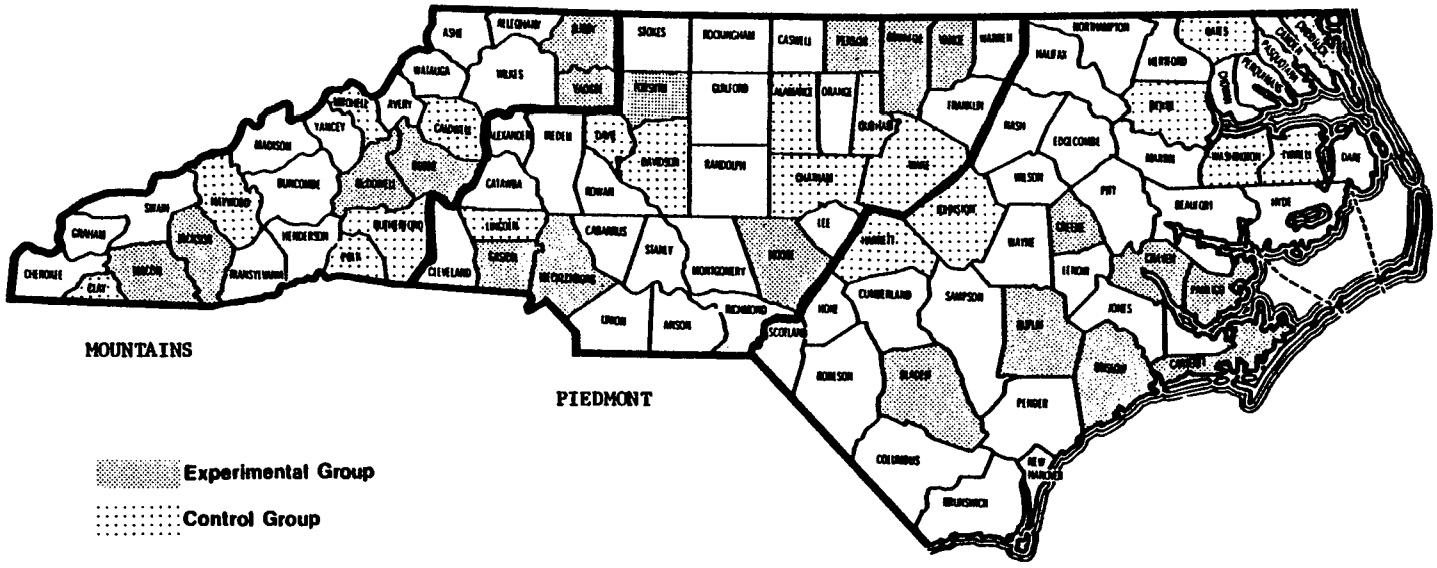
APPENDIX A

MAP



GEOGRAPHIC REGIONS IN NORTH CAROLINA

APPENDIX B

CORRESPONDENCE

July 31, 1981

TO: Home Economics Extension Agents with Responsibility in Housing and House Furnishings

FROM: Wilma S. Hammett
Extension Interior Design Specialist

As Home Economics Extension Agents, you are constantly trying to develop new communication techniques to reach clientele in your county. One technique that is presently under consideration by Extension is the use of videocassettes. I would like your help in determining if videocassettes are a viable alternative to some of our present methods of teaching home economics and if establishing videocassette libraries in the local county office is a feasible educational communication technique in the near future. This study is being conducted for partial fulfillment of the requirements to complete my doctorate degree at UNC-Greensboro.

Extension agents with your area of responsibility can be most helpful in identifying effective visual communication methods of teaching since the subject matter of housing and house furnishings so often requires the use of visuals. In other words, it is difficult to use "live" pieces of furniture to discuss furniture selection principles.

The results of this study will be used to help the Housing and House Furnishings Department and possibly other home economics departments determine how much to emphasize videocassettes when we package programs for county use in the future. I am always looking for new visual means to get information about home furnishings to our clientele. This is your opportunity to help me do it!

You may be assured your answers will be completely confidential. The questionnaire has an identification number for mailing and data analysis purposes only.

Please return the enclosed questionnaire to me by August 19. If you would like a copy of the results when the study is complete, place a check ( ) beside your name on your enclosure slip when you return the questionnaire. I will be happy to share the results with you. If you have any questions about the questionnaire, please write me or call me at 919/737-2770.

Thanks so much for your time. Your interest and assistance are appreciated.

August 26, 1981

TO: Certain Extension Home Economics Agents with Responsibility in Housing and Home Furnishings

FROM: Wilma S. Hammett
Extension Interior Design Specialist

A few weeks ago, I wrote to you seeking your opinion about the feasibility of using videocassette programs more extensively in Extension Home Economics. To date, I have not yet received your completed questionnaire.

As indicated previously, this survey will be a part of my research to complete the requirements for a doctorate degree. I would like to hear from all of you to be sure that the results are truly representative.

In the event that your questionnaire has been misplaced, a replacement is enclosed. Your assistance is greatly appreciated.

December 14, 1981

TO: Certain Home Economics Extension Agents with Responsibility in Housing and Home Furnishings

FROM: Wilma S. Hammett
Extension Interior Design Specialist

Your county has been selected to participate in Phase II of the study regarding the use of videocassettes in county home economics programs. Phase II involves the implementation of videocassette programs in 20 counties throughout the state. You will receive shortly after January 7 two videocassettes, one entitled "Wood Furniture: A Good Buy," the other entitled "Upholstered Furniture: A Good Buy." I am asking you to reserve one day during the time period between January 7 and February 5 to make the videocassette programs available to clientele in your county office.

Most of you indicated that you have videocassette equipment in your office or could borrow it from the local school system or community college. Please go ahead and reserve the equipment for a 24-hour period if possible. If you can't get equipment for some reason, let me know immediately. I have reserved several units and can take them to you.

The videocassette programs discuss how to buy wood furniture and upholstered furniture. They were filmed in a furniture store and show what features to look for when buying, and how to test for quality construction. They would be especially beneficial to young adults in the 20 to 40 age group who are most often buying furniture at this stage of their lives. The program can be used with other groups as well.

As you know, this project is part of my dissertation. I hope you will help me by reserving one day to try out these materials. I will be most grateful.

In the next few days, I will be sending you some guidelines for conducting the program, an advertising release for newspapers and/or radio, surveys for clientele use, and a survey form for your use.

Thanks in advance for your help. I hope you will find the videocassettes interesting and beneficial to your county program.

December 15, 1981

TO: Certain Home Economics Extension Agents
With Responsibility in Housing

FROM: Wilma S. Hammett
Extension Interior Design Specialist

Your county has been selected to participate in Phase II of the study regarding the use of videocassettes in county home economics programs. Phase II involves the implementation of videocassette programs in 20 counties throughout the state. You will receive shortly after January 7 two videocassettes, one entitled "Wood Furniture: A Good Buy," the other entitled "Upholstered Furniture: A Good Buy." I am asking you to reserve one day during the time period between January 7 and February 5 to make the videocassette programs available to clientele in your county office.

Most of you indicated that you have videocassette equipment in your office or could borrow it from the local school system or community college. Please go ahead and reserve the equipment for a 24-hour period if possible. If you can't get equipment for some reason, let me know immediately. I have reserved several units and can take them to you.

The videocassette programs discuss how to buy wood furniture and upholstered furniture. They were filmed in a furniture store and show what features to look for when buying and how to test for quality construction. They would be especially beneficial to young adults in the 20 to 40 age group who are most often buying furniture at this stage of their lives. The program can be used with other groups as well.

As you know, this project is part of my dissertation. I hope you will help me by reserving one day to try out these materials. I will be most grateful.

In the next few days, I will be sending you some guidelines for conducting the program, an advertising release for newspapers and/or radio, surveys for clientele use, and a survey form for your use.

Thanks in advance for your help. I hope you will find the videocassettes interesting and beneficial to your county program.

P.S. Please return the enclosed postcard with your signature as soon as possible!

December 22, 1981

MEMO TO:

Mae Spicer	Junetta Pell
Chase Padgett	Rachel Keisler
Susan Herring	Brenda Rose
Willa Bailey	Jane Davidson
Susan Noble	Lillie Hovatter
Dorothy Boone	Mary Shurling
Maurene Rickards	Phyllis Stainback
Jessie Cabe	Carolyn Leonard
Sandra Brown	Jean Hubbard
Libby Simpson	Martha Burris

FROM: Wilma S. Hammett
Extension Interior Design Specialist

RE: Videocassette Study

Enclosed is some information on the videocassette programs for you to use in advertising the program and suggested guidelines and procedures for conducting the program in your county. Due to availability of equipment, you may conduct the program in the local Extension office, a local school, community college, or possibly at a local retail furniture store. The furniture store may introduce you to a new clientele. Use your own judgment and, of course, the regulations of the agency from whom you are borrowing the equipment. Please read the guidelines and procedures carefully. If you have questions, call my office collect. Note the date January 11 is a change from my previous correspondence. This is a delay to be sure that the tape will arrive in time for your program and to allow changes from the pretest results.

The tape (both programs on one tape--each program is approximately 15 minutes) and the surveys will be mailed to you after January 4. Please let me know on the enclosed postcard the date of your program and the size and type of the tape you will need, so we can be sure the tape works in the machine on your program date.

Again, thanks for your assistance. I look forward to working with you.

GUIDELINES FOR CONDUCTING VIDEOCASSETTE PROGRAMS

ON BUYING FURNITURE

1. Select a date between January 11 and February 5, 1982 for conducting the program.

2. Reserve videocassette player from local school or community college if you plan to borrow it.

   Note: If equipment is not available to you on the date you have chosen, contact me immediately. I have reserved some equipment and can make it available to you on a first-come, first-serve basis.

3. Advertise the program using the information provided in one or more of the following ways: newsletter, radio and/or tv, newspaper, poster at local furniture stores, etc., depending on audience you want to reach. (Remember, the program is a good target for young adults 20 to 40 years old.)

4. Block out the entire day on your calendar. It is essential that you be available to operate the equipment, to meet the clientele, and to collect the survey information from them personally.

5. Note: This program is to be conducted on an individual basis--not at a prescribed time of the day. In other words, the program should be advertised as being available for viewing any time of the day. No more than two to three people should view the videocassettes at any time. If possible, try to make the program available at night or during lunch to reach working clientele.

6. You may conduct this program in the Extension Office, at the community college or local school depending upon equipment availability to you. If you are conducting the program outside your county office, take along your reading material so your day won't be wasted.

PROCEDURES FOR CONDUCTING THE VIDEOCASSETTE PROGRAMS

1. Introduce yourself (if clientele is new to you).

2. Explain the program.
   Indicate that Extension is trying out a new method of reaching clientele and that we would like their feedback regarding the program and the method of presentation (videocassette). Indicate you will bring a survey to them when they finish viewing the videocassette and will ask them to fill it out for their reaction to the program and the method of teaching.

GUIDELINES - Page 2

3. Ask which videocassette program they wish to view.

4. Insert the tape and turn on videocassette player and monitor.

5. Make sure the player and monitor are working properly to produce a good picture.

6. Allow the client to view the cassette privately.

7. Return in 15 minutes.

8. Ask if he/she has any questions.

9. Hand out survey.

10. Collect the survey from the client.

11. When the day is complete, fill out the Agent Attitude Survey.

12. Return your survey and those surveys completed by the clientele by First Class Mail as soon as possible to Wilma Hammett, 210 Ricks Hall, NCSU, Raleigh, NC 27607.

Special Note:

The use of videocassettes for individualized programs in the county Extension offices should not consume your time as it does in this particular project. I envision videocassette programs to be used in the county with little or no involvement from you. Your participation is needed there to make sure that the program is conducted as similarly as possible in each county where it is being tested. Thanks for your time!

PUBLIC SERVICE ADVERTISEMENT ON

FURNITURE BUYING PROGRAM

You can get good buys on furniture in January and February as most retailers feature sales at this time of year. If you're looking for furniture, learn the facts before you head to the store. Visit the (location where program is to be held) any time between 8:30 a.m. and 8:30 p.m. on (date) and learn what to look for when buying wood and upholstered furniture. You'll learn how to determine if you're getting your money's worth.

Can you tell the difference between solid wood, a veneer, a printed finish, or a plastic laminate?

Can you determine if a piece of furniture has a good finish on it?

Do you know how to look at furniture to determine quality construction?

These are just some of the questions answered by the program "WOOD FURNITURE: A GOOD BUY."

Do you know how to check for a sturdy frame on a chair or sofa?

Can you determine if a chair or sofa has enough springs for proper support?

Do you know how to determine if enough padding was used in the chair?

Can you judge a good wearing fabric for a chair or sofa?

These are just some of the questions answered by the program "UPHOLSTERED FURNITURE: A GOOD BUY."

Both programs feature Wilma Hammett, Extension Interior Design Specialist at North Carolina State University.

Get the facts and learn the skill of judging furniture for yourself. We guarantee your next furniture purchase will be a wise buy after you've seen either or both of these programs on buying furniture.

So make your next furniture choice a good one. Come by the (location where program is to be held) between 8:30 a.m. and 8:30 p.m. on (date) and get the facts before you buy.

January 20, 1982

MEMO TO: Certain Home Economics Extension Agents with Responsibility in Housing and Home Furnishings

FROM: Wilma S. Hammett
Extension Interior Design Specialist

You have been selected to participate again in the videocassette study I am conducting with a selected group of Extension Home Economics Agents with housing and home furnishings responsibility. Your participation will involve answering the enclosed survey.

Please answer all the questions even though you may recognize their similarity to the first survey you completed. The overall responses from your group will be compared with the responses from another selected group of agents who are using two videocassette programs in their counties. This comparison will enable me to make a better evaluation of the videocassette programs.

Return the enclosed questionnaire first class by Wednesday, February 3, using your enclosed slip for franking privileges.

Thank you for your assistance.

January 21, 1982

MEMO TO: Certain Home Economics Extension Agents with Housing and Home Furnishings Responsibility

FROM: Wilma S. Hammett
Extension Interior Design Specialist

RE: Videocassette Study

Enclosed are the following materials for conducting the videocassette program on Buying Furniture in your county.

_____½" VHS Videocassette
_____½" Beta Videocassette
_____3/4" Videocassette
_____25 copies of "Videocassette Attitude Survey for Extension Clientele" to be completed individually by the audience
_____25 copies of Furniture Buying Checklist - Wood Furniture
_____25 copies of Furniture Buying Checklist - Upholstered Furniture
_____1 copy of "Attitude Survey on Use of Videocassettes in Extension" to be completed by you
_____Instructions on connecting and operating videocassette player
_____Copy of Guidelines for Conducting the Videocassette Program

*Remember - Please return the completed surveys and the videocassette (If you have a machine from NCSU, the videocassette will stay with the machine to the next county.) to me FIRST CLASS with your enclosure clip for franking privileges when your program is complete.

Thank you for your assistance.

Playback of Videocassette

1. Connect black cable from "RF OUT" on the back of the cassette player to the plug below VHF antenna terminals on the rear of the monitor. Turn cassette player on. Set monitor to TV by adjusting button on rear lower left to "OFF AIR" position, not "CC TV."

2. Push "EJECT" button and load the cassette in player.

3. Set the Video/TV switch on cassette player to "VIDEO."

4. Tune monitor TV to channel #3-----NOTE: If in your area channel #3 is in use, turn the tape deck over and look at the right-hand rear corner on the bottom of the tape deck where it is labeled-- LOW CH -- with power off and the unit unplugged, insert a small HIGH CH

   screwdriver in the hole provided and shoft the switch to High, then change the TV channel selector to channel #4 ----- In most areas, channel #3 will do the job and you will not have to bother the switch on bottom of unit.

5. Depress "PLAY" button.

6. If lines or streaking appear on monitor, adjust Tracking Control on the cassette player by turning clockwise very slowly.

7. When program is finished, depress the "STOP" button.

8. Then press "REW" button to rewind cassette.

9. When rewinding complete, press "STOP" button, then "EJECT" button to remove cassette.

10. Keep cassette with player to go to next county using them.

APPENDIX C

INSTRUMENTS

ATTITUDE SURVEY ON USE OF VIDEOCASSETTES

IN EXTENSION

(Phase I Questionnaire)

Please read each statement circle the number under the response that best describes how you feel about the statement. There are no right or wrong answers. Please respond to all statements.

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
1. The videotape is an effective teaching medium for adults when used with a lecture/demonstration.	1	2	3	4	5
2. Allowing clientele to use prepackaged videocassette programs for individual use in the county Extension office would not necessarily save the Home Economics Agent personal consultation time.	1	2	3	4	5
3. Clientele who have used Extension information previously will not readily accept programs on video-cassettes	1	2	3	4	5
4. I would recommend prepackaged video-cassette programs to my county clientele if the tapes were available.	1	2	3	4	5
5. People who cannot come to meetings held by Extension are not likely to come to the county Extension office to use pre-packaged videocassette programs.	1	2	3	4	5
6. Clientele who have not attended Exten-sion programs previously will accept programs on videocassettes.	1	2	3	4	5
7. The videotape is an effective teaching medium for adults when it is used with-out another medium.	1	2	3	4	5

		STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
8.	Live presentations by the Extension agent are superior to videocassette presentations in presenting consumer buymanship information.	1	2	3	4	5
9.	People will think the new videocassette machines are for entertainment and will not use them for educational programs at home or in the county Extension office.	1	2	3	4	5
10.	The loss of clientele's personal contact with the agent due to the use of videocassette programs will be a detriment to Extension's public image.	1	2	3	4	5
11.	Adults will not accept the videotape when used by itself.	1	2	3	4	5
12.	The videotape is an effective way to handle certain types of training for Extension agents in their own office.	1	2	3	4	5
13.	Videocassette programs can help Extension reach young adults who are not being reached through meetings now.	1	2	3	4	5
14.	The videotape is an effective medium for Extension Administration to use to get information about the organization (Administrative Briefing) to county personnel.	1	2	3	4	5
15.	A videocassette library with prepackaged videotape programs and a videocassette machine in the county Extension office for clientele to use at their convenience will be more trouble than it's worth.	1	2	3	4	5
16.	Allowing clientele to use prepackaged videocassette programs for individual use in the county Extension office would save the Home Economics Extension Agent program preparation time.	1	2	3	4	5

		STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
17.	Adults will accept the videotape as a teaching medium when used with a lecture/demonstration.	1	2	3	4	5
18.	The Extension Service could reach people who do not have time to come to meetings by having prepackaged videocassette programs for people to look at in the county Extension office.	1	2	3	4	5
19.	I do not feel comfortable using videotapes as resource materials for meetings.	1	2	3	4	5
20.	The videotape is effective for teaching clientele only in a small group setting.	1	2	3	4	5
21.	A videocassette machine is too difficult for clientele to operate without assistance from Extension personnel.	1	2	3	4	5
22.	The videocassette is a viable alternative for reaching working women with educational information in home economics.	1	2	3	4	5
23.	Prepackaged videocassette programs can provide more flexibility in the scheduling of educational programs.	1	2	3	4	5

24. If prepackaged videocassette programs did save you program preparation and presentation time, how would you most likely use the time? Mark ONE (x) only.

1. _____Organization and maintenance of office
2. _____Program planning and preparation
3. _____Reaching new audiences
4. _____Answering questions missed by videocassette
5. _____Keeping update in subject matter and in the profession through more reading
6. _____Other (Please specify):_____
_____

25. With which of the following videotape formats are you familiar? Mark (x) by all that apply.

1. _____reel-to-reel
2. _____3/4" cassette
3. _____1/2" cassette

26. Which of the following videotape formats have you used? Mark (x) by all that apply.

1. _____reel-to-reel
2. _____3/4" cassette
3. _____1/2" cassette

27. What is your experience with videotape? Mark (x) by all that apply.

1. _____have viewed administrative briefing
2. _____have used it for my own individual training
3. _____have used it for small group meeting I conducted in combination with a lecture, demonstration, or discussion
4. _____have used it alone for small group meeting I conducted
5. _____other (Please specify):_____
_____

28. When you conduct special interest programs in home furnishings, what do you most often do about visuals? Mark ONE (x) only.

1. _____develop my own visuals and program
2. _____use all the materials in visuals and kits from the Housing and Home Furnishings Department and adapt the script to suit my program
3. _____use some of the materials in visuals and kits from the Housing and Home Furnishings Department and adapt the script to suit my program
4. _____use the visuals and kits from the Housing and Home Furnishings Department as they are.

29. Title

1. _____Assistant Home Economics Extension Agent
2. _____Associate Home Economics Extension Agent
3. _____Home Economics Extension Agent

30. Age

1. _____21-30
2. _____31-40
3. _____41-50
4. _____51-60
5. _____61-70

31. Length of time with Extension Service (North Carolina and other states)

1. _____ 0-5 years
2. _____ 6-10 years
3. _____11-15 years
4. _____16-20 years
5. _____21-25 years
6. _____26-30 years
7. _____over 30 years

32. Education

1. _____Bachelor's Degree
2. _____Coursework beyond B.S. Degree
3. _____Master's Degree
4. _____Coursework beyond M.S. Degree

33. Are you currently enrolled in a graduate school program?

1. _____Yes
2. _____No

34. Is there videocassette equipment in your County Extention Office?

1. _____Yes--if yes, what type: _____reel-to-reel
   _____1/2" cassette
   _____3/4" cassette

2. _____No (Go to question 36)

35. How much is the videocassette equipment in your County Extension Office used by the Extension Home Economics staff?

1. _____Frequently (once a week or more)
2. _____Occasionally (bi-weekly)
3. _____Infrequently (once a month)
4. _____Not used at all

Describe type of use:_____

36. Does the local community college have videocassette equipment?

1. _____Yes (Go to question 37)
2. _____No (Go to question 38)
3. _____I don't know (Go to question 38)

37. If yes, will they let you borrow the videocassette equipment for two days? (Please ask them before answering.)

A--	B--What type format is it? Please mark (x) one.
1. _____Yes	VHS _____
2. _____No	Beta_____

38. Does the local school system have videocassette equipment?

1. _____Yes
2. _____No

39. If yes, will they let you borrow the videocassette equipment for two days? (Please ask them before answering.)

A--	B--What type format is it? Please mark (x) one.
1. _____Yes	VHS _____
2. _____No	Beta_____

ATTITUDE SURVEY ON USE OF VIDEOCASSETTES

IN EXTENSION

(Phase II Questionnaire - Control)

Please read each statement circle the number under the response that best describes how you feel about the statement. There are no right or wrong answers. Please respond to all statements.

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
1. The videotape is an effective teaching medium for adults when used with a lecture/demonstration.	1	2	3	4	5
2. Allowing clientele to use prepackaged videocassette programs for individual use in the county Extension office would not necessarily save the Home Economics Agent personal consultation time.	1	2	3	4	5
3. Clientele who have used Extension information previously will not readily accept programs on video-cassettes	1	2	3	4	5
4. I would recommend prepackaged video-cassette programs to my county clientele if the tapes were available.	1	2	3	4	5
5. People who cannot come to meetings held by Extension are not likely to come to the county Extension office to use pre-packaged videocassette programs.	1	2	3	4	5
6. Clientele who have not attended Exten-sion programs previously will accept programs on videocassettes.	1	2	3	4	5
7. The videotape is an effective teaching medium for adults when it is used with-out another medium.	1	2	3	4	5

		STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
8.	Live presentations by the Extension agent are superior to videocassette presentations in presenting consumer buymanship information.	1	2	3	4	5
9.	People will think the new videocassette machines are for entertainment and will not use them for educational programs at home or in the county Extension office.	1	2	3	4	5
10.	The loss of clientele's personal contact with the agent due to the use of videocassette programs will be a detriment to Extension's public image.	1	2	3	4	5
11.	Adults will not accept the videotape when used by itself.	1	2	3	4	5
12.	The videotape is an effective way to handle certain types of training for Extension agents in their own office.	1	2	3	4	5
13.	Videocassette programs can help Extension reach young adults who are not being reached through meetings now.	1	2	3	4	5
14.	The videotape is an effective medium for Extension Administration to use to get information about the organization (Administrative Briefing) to county personnel.	1	2	3	4	5
15.	A videocassette library with prepackaged videotape programs and a videocassette machine in the county Extension office for clientele to use at their convenience will be more trouble than it's worth.	1	2	3	4	5
16.	Allowing clientele to use prepackaged videocassette programs for individual use in the county Extension office would save the Home Economics Extension Agent program preparation time.	1	2	3	4	5

		STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
17.	Adults will accept the videotape as a teaching medium when used with a lecture/demonstration.	1	2	3	4	5
18.	The Extension Service could reach people who do not have time to come to meetings by having prepackaged videocassette programs for people to look at in the county Extension office.	1	2	3	4	5
19.	I do not feel comfortable using videotapes as resource materials for meetings.	1	2	3	4	5
20.	The videotape is effective for teaching clientele only in a small group setting.	1	2	3	4	5
21.	A videocassette machine is too difficult for clientele to operate without assistance from Extension personnel.	1	2	3	4	5
22.	The videocassette is a viable alternative for reaching working women with educational information in home economics.	1	2	3	4	5
23.	Prepackaged videocassette programs can provide more flexibility in the scheduling of educational programs.	1	2	3	4	5

ATTITUDE SURVEY ON USE OF VIDEOCASSETTES

IN EXTENSION

(Phase II Questionnaire - Experimental)

Please read each statement circle the number under the response that best describes how you feel about the statement. There are no right or wrong answers. Please respond to all statements.

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
1. The videotape is an effective teaching medium for adults when used with a lecture/demonstration.	1	2	3	4	5
2. Allowing clientele to use prepackaged videocassette programs for individual use in the county Extension office would not necessarily save the Home Economics Agent personal consultation time.	1	2	3	4	5
3. Clientele who have used Extension information previously will not readily accept programs on video-cassettes	1	2	3	4	5
4. I would recommend prepackaged video-cassette programs to my county clientele if the tapes were available.	1	2	3	4	5
5. People who cannot come to meetings held by Extension are not likely to come to the county Extension office to use pre-packaged videocassette programs.	1	2	3	4	5
6. Clientele who have not attended Exten-sion programs previously will accept programs on videocassettes.	1	2	3	4	5
7. The videotape is an effective teaching medium for adults when it is used with-out another medium.	1	2	3	4	5

		STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
8.	Live presentations by the Extension agent are superior to videocassette presentations in presenting consumer buymanship information.	1	2	3	4	5
9.	People will think the new videocassette machines are for entertainment and will not use them for educational programs at home or in the county Extension office.	1	2	3	4	5
10.	The loss of clientele's personal contact with the agent due to the use of videocassette programs will be a detriment to Extension's public image.	1	2	3	4	5
11.	Adults will not accept the videotape when used by itself.	1	2	3	4	5
12.	The videotape is an effective way to handle certain types of training for Extension agents in their own office.	1	2	3	4	5
13.	Videocassette programs can help Extension reach young adults who are not being reached through meetings now.	1	2	3	4	5
14.	The videotape is an effective medium for Extension Administration to use to get information about the organization (Administrative Briefing) to county personnel.	1	2	3	4	5
15.	A videocassette library with prepackaged videotape programs and a videocassette machine in the county Extension office for clientele to use at their convenience will be more trouble than it's worth.	1	2	3	4	5
16.	Allowing clientele to use prepackaged videocassette programs for individual use in the county Extension office would save the Home Economics Extension Agent program preparation time.	1	2	3	4	5

		STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
17.	Adults will accept the videotape as a teaching medium when used with a lecture/demonstration.	1	2	3	4	5
18.	The Extension Service could reach people who do not have time to come to meetings by having prepackaged videocassette programs for people to look at in the county Extension office.	1	2	3	4	5
19.	I do not feel comfortable using videotapes as resource materials for meetings.	1	2	3	4	5
20.	The videotape is effective for teaching clientele only in a small group setting.	1	2	3	4	5
21.	A videocassette machine is too difficult for clientele to operate without assistance from Extension personnel.	1	2	3	4	5
22.	The videocassette is a viable alternative for reaching working women with educational information in home economics.	1	2	3	4	5
23.	Prepackaged videocassette programs can provide more flexibility in the scheduling of educational programs.	1	2	3	4	5

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

(Questions for Experimental Group Only)

24. I would recommend to other agents using the videocassettes in an individualized learning situation as a method of teaching	1	2	3	4	5
25. I would continue to use the videocassette programs on selecting furniture in an individualized situation for my clientele when we get videocassette equipment in our office.	1	2	3	4	5
26. A live presentation by the agent would have been better to teach how to select furniture than the videocassette.	1	2	3	4	5
27. A slide presentation would be more effective than the videocassette in teaching people how to select furniture.	1	2	3	4	5

28. How would you rate the use of the videocassette in an individualized learning situation as a method of teaching?

1. _____better than other methods
2. _____about the same as other methods
3. _____undecided
4. _____not as good as other methods
5. _____considerably less effective than other methods

29. Do you think preparing this type of program was good use of the specialist's time?

1. _____yes
2. _____undecided
3. _____no

Comments:_____

_____

30. How responsive do you think your clientele would be to the use of prepackaged videocassette programs in the county Extension office if the videocassettes were available?

1. _____very responsive
2. _____somewhat responsive
3. _____not responsive at all
4. _____undecided

31. a. What recruitment procedures did you use in announcing that the videocassette and the videotape programs were available for use in your county office? Mark (x) by the one(s) in the left column.

Used	Rank	
_____	_____	1. Newspaper article
_____	_____	2. Radio spot announcement
_____	_____	3. Word-of-mouth
_____	_____	4. Contact and/or flyers with local furniture retailers
_____	_____	5. Individual contact with those people I thought would be interested
_____	_____	6. Extension Homemaker's Newsletter
_____	_____	7. Other newsletters (Please specify:_____).

b. Now rank the ones you used according to how effective you think they were in recruiting interest and/or participation. Use #1 to show the most important, #2 the next most important, etc. Place the rank numbers in the blanks in the column above labeled "rank."

32. How would you rate the amount of information included in the cassette(s)?

1. _____adequate
2. _____inadequate
3. _____uncertain

33. What would you suggest to improve the use of the videocassette in an individualized situation for teaching people how to select furniture?_____

_____

34. Did you like using the videocassette machine?

1. _____yes
2. _____undecided
3. _____no

What did you like MOST about using the videocassette machine?

_____

What did you like LEAST about using the videocassette machine?

_____

35. Where did you conduct the videocassette program for the clientele?

1. _____at the Extension office
2. _____at the community college
3. _____at a local school
4. _____at a furniture store
5. _____other (Please specify)_____

36. What was the most difficult or frustrating part of your overseeing the videocassette use?_____

_____

37. What was the most rewarding part of your experiences with overseeing the videocassette use?_____

_____

38. What clientele do you think would <u>most likely</u> use videocassette programs on home economics topics available through your office? <u>Mark (x) one only</u>.

1. _____older Extension homemakers
2. _____young Extension homemakers
3. _____general public
4. _____working women
5. _____4-H leaders
6. _____others (Please specify)_____

39. Do you think a videocassette library of pertinent home economics related programs would be used by clientele in your county?

1. _____yes
2. _____maybe
3. _____no
4. _____I don't know

40. How much do you think Extension will need to have someone to "man" the library?

1. _____all of the time
2. _____as needed
3. _____none of the time

41. If someone from Extension is needed to assist clientele in the library, who should it be?

1. _____Extension agents
2. _____Extension secretary
3. _____Extension media technician
4. _____Other

42. How many presentations (excluding programs for Extension Homemakers Clubs) have you made in the last month?

1. _____ 0-5
2. _____ 6-10
3. _____11-15
4. _____16-20
5. _____21-25
6. _____more than 25

To what groups were presentations made?

1. _____special interest groups
2. _____garden clubs
3. _____4-H youth
4. _____young homemakers
5. _____parents
6. _____civic groups
7. _____other(s) (Please specify) _____

43. Could any of the programs you conducted be a prepackaged videocassette program for clientele to view individually rather than to attend a meeting?

1. _____yes
2. _____undecided
3. _____no

If yes, how many of them? _____

Name the subject matter content of those programs:

_____ _____

_____ _____

_____ _____

44. Which type(s) of information do you think could be presented effectively in a videotape program for clientele to use in an individualized situation? Mark one(s) that apply.

1. _____skills on how to do-it-yourself
2. _____selection and buying information
3. _____trends and update information
4. _____none of the above
5. _____other (Please specify)_____

_____

45. Since this experience with using a videocassette program in your county, what is your attitude toward this type of program?

1. _____much more favorable
2. _____somewhat more favorable
3. _____unchanged
4. _____somewhat less favorable
5. _____not very favorable at all

VIDEOCASSETTE ATTITUDE SURVEY

FOR EXTENSION CLIENTELE

Please read the following questions carefully. Place an "x" by the statement that best describes how you feel. There are no right or wrong answers. Please answer all items.

1. How confident were you about your ability to make a wise buying decision on furniture before you saw the videotape?

   1. _____very confident
   2. _____somewhat confident
   3. _____undecided
   4. _____somewhat less confident
   5. _____not very confident at all

2. How would you describe your confidence level after seeing the videotape?

   1. _____much more confident
   2. _____somewhat more confident
   3. _____same level of confidence as I had previously
   4. _____undecided

3. How do you feel about the amount of information in the program?

   1. _____too much information
   2. _____not enough information
   3. _____right amount of information
   4. _____undecided

4. Was the program easy to understand?

   1. _____yes
   2. _____no
   3. _____undecided

5. How do you feel about the length of the program?

   1. _____too long
   2. _____too short
   3. _____about right

6. What was your reaction to viewing the videocassette to learn buying information?

   1. _____I liked it very much
   2. _____it's o.k.
   3. _____undecided
   4. _____I would rather get information from Extension another way (Please explain)_____
   5. _____I do not like it at all

7. Would you use the videocassette as a way of obtaining information if the County Extension Service made it available in its office for people in the county?

   1. _____yes
   2. _____undecided
   3. _____no

8. How much has the videocassette program on selecting furniture helped you?

   1. _____answered most of my questions
   2. _____answered some of my questions
   3. _____answered few of my questions
   4. _____answered none of my questions

   What information did you find most helpful?_____

   _____

   What question(s) did you have about selecting that was/were NOT answered in the videotape program?_____

   _____

9. Do you think you would learn more in a meeting than you did seeing the videocassette program?

   1. _____yes
   2. _____no
   3. _____undecided

10. What did you like MOST about the videotape as a type of learning program?_____

    _____

11. What did you like LEAST about the videotape as a type of learning program?_____

    _____

12. Is this your first experience with the Agricultural Extension Service?

    1. _____yes -- Go to question 14
    2. _____no -- Go to question 13

13. If no, how have you been involved with the Extension Service previously? Mark "x" one(s) that apply.

    1. _____attended special interest meeting(s)
    2. _____attended area meeting(s)
    3. _____attended workshop(s)
    4. _____member of Extension Homemakers Club
    5. _____4-H leader
    6. _____I am receiving by mail information or a newsletter from Extension
    7. _____other (Please specify)_____

NOW GO TO QUESTION 15.

14. If yes, do you think you would come to the Extention Service for information again?

    1. _____yes
    2. _____no
    3. _____undecided

15. How did you hear about the videotape program? Mark "x" by one only.

    1. _____newspaper article
    2. _____radio spot announcement
    3. _____word-of-mouth
    4. _____local furniture retailer
    5. _____Extension Homemakers Newsletter
    6. _____other newsletter
    7. _____other (Please specify)_____

16. Which videotape(s) program did you see?

    1. _____Selecting Wood Furniture
    2. _____Selecting Upholstered Furniture

17. Age

    1. _____younger than 20
    2. _____21-30
    3. _____31-40
    4. _____over 40

18. Education (Indicate highest level completed)

1. _____8th grade or above
2. _____high school graduate
3. _____one or more years of college
4. _____college graduate
5. _____graduate degree

19. Sex

1. _____male
2. _____female

20. Marital Status

1. _____married
2. _____single
3. _____separated or divorced
4. _____widow or widower

21. Do you have children?

1. _____yes
2. _____no

22. Are you employed?

1. _____yes
2. _____no

23. What is your occupation?

_____

24. Where do you live?

1. _____rural area
2. _____town with less than 25,000 people
3. _____town with more than 25,000 people

25. Are you planning to purchase furniture in the next six months?

1. _____yes
2. _____undecided
3. _____no

APPENDIX D

SCRIPTS AND HANDOUTS

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	If you're like I am, you think of furniture as a major purchase. However, there are some things you can do to be sure you're getting the best value for your furniture dollar. Before you head for the store, get organized. Make a shopping list. Include measurements--maximum height, length and width of spaces. Your floorplan might be helpful. Jot down your color and texture ideas. Make a list of the other items the new piece of furniture must relate to. Take along paint chips, carpet, and fabric samples. Remember you can't go by price alone. A higher price doesn't always mean better quality construction or longer wear. Sometimes a small company can produce the same quality chair as a larger company and do it at a lower price. The difference may be in the number of frame styles or fabric selections offered. Most upholstered furniture is made up in four basic parts: the frame, the supporting foundation, the cushioning or padding, and the outer covering.

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	Right now, let's go chair shopping and look at these areas more closely. When you first walk into a furniture store, you may feel overwhelmed. All those chairs. Yet, as you look, one catches your eye. Stand back, take an honest, hard look at it from all sides. Do the legs, base, and back seem in good proportion one to the other. Ask yourself will this chair help create the look I want in my room? Then, check your samples with it. Does the chair blend harmoniously in color and in size with your room. If your room has a full-scale upholstered chair, a small wing chair may look strange in the same room. Next, check the sturdiness of the upholstery fabric. There are several ways to do this. Hold a swatch to a light. You shouldn't be able to see any light--or at most--only tiny pinpoints of light. And you shouldn't see any backing material between the threads. Grip the two edges of the swatch, holding your thumbs close together like this. Press down on the fabric as hard as you can. If you see

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	slipping or separating of yarns, the construction is weak. Scratch the fabric with your nails to see if threads stretch or pull easily. Take a pencil eraser and rub briskly. If bits of fabric come off, the fabric will peel with wear. Check to see if the design is printed or woven. Look at the back. If the back is a solid color and the design isn't evident, it's been printed on. You can test the design's "stay-ability" by rubbing the face of the fabric with a white handkerchief. If the color rubs off, don't consider it. If the fabric has a backing on it, rub it together to be sure it won't flake off with wear. Also, think about your family's needs when you're selecting a fabric. After all, where and how the chair will be used will help determine fabric choice. Remember these fabric tips--tightly woven fabrics wear better than loosely woven ones. Lightweight fabrics such as cotton and linen wear better when quilted. Medium colors and all-over patterns will show dirt less than light, solid-colored fabrics.

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	Also, keep in mind--the price of the fabric has nothing to do with durability. After all, silk is the most expensive fabric available, but it's the least durable. Here's another buying tip: If you're interested in two pieces of upholstered furniture in the same color, order them at the same time. Unless the fabric is dyed in the same lot, it may vary in color somewhat. Next, check the tailoring. Look at the cording. Is it straight, not wavy where it attaches to the frame? Check the seams. They should be straight. If there are buttons, they would line up correctly. They should also be securely attached. If there is a skirt, it should hang straight and should be lined. This will help it maintain its shape. The fabric should be smooth with no wrinkling or puckering on cushions. The exceptions would be the "plumply" looking ones.

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	Look at the cushions. They should fit snugly in the corners. There should be no buckling at the edges of the cushion. Also look at the design on the cushions. If it is a large design, the pattern should be in the same place on the back and seat cushions. With strips and plaids, there should be a line flowing from the back of the cushion to the skirt, and be sure to check to see if the pattern matches when the cushions are reversed. If the fabric is quilted, check the stitches. Are they even and well locked? Now try out the chair. Sit in it. You should sink gradually, not suddenly. Lean back into the chair. Note whether or not you can feel any hard area of the frame. Check the depth of the seat and the height and pitch of the back for comfort. Do they fit and give you the support you want? If you're forced to sit upright or lean back in an uncomfortable way, the chair will be difficult to live with.

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	Bounce in the chair. Don't be bashful. You should feel a bouyancy in the springs, not hit against the frame. Listen for creaking sounds or a shaky, wobbly feeling. If you hear those sounds, or get that feeling, the frame is poor. Continue to sit in the chair as you check the padding. Remember you may be sitting in it for long periods of time, and you'll want it to feel comfortable for as long as you sit. Feel the padding. Check the top of the arms, the corners of the arms, front rail, and corners of the back. They should feel smooth--not bunchy or lumpy. And you should not be able to feel the frame through the padding. If you do feel the sharp edges of the frame, the fabric will show wear sooner. Depress the cushion with your hands. It should recover reasonably slowly--not depress easily and pop back quickly. Check the "under penalty of law" tag. It's usually located on the deck or the bottom dust cover. It'll tell you what the cushion in the chair is. Solid foam is most commonly used.

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	Either it's left by itself or it's wrapped in polyester. If you're looking at a less expensive piece, you may find it's been cushioned with cotton fiberfill. Down, or a combination if it and _____, may be used in some expensive lines. It is softer, more cushiony, but is not resilient. Press your hand on the seat deck. If you can feel the springs, there's not enough padding. Look underneath the chair. Feel to see how many springs were used. The number and type depend on the size and style of the chair. However, the springs should be placed closely enough together so that you can't feel any gaps. If coil springs are used, check the label to see how many times the springs are tied. In less expensive furniture, the springs are tied four times. In more expensive furniture, the springs are tied by hand as many as eight times. Look at the frame. The exposed wood should be sanded and finished evenly. The corners should have corner blocks which are screwed and glued in place--not stapled.

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	Check the legs. If they are simply screwed into the frame or attached by metal plates, look for something better. It is better if the leg is an extension of the frame. Now that you have thoroughly checked out the piece, sit back down in the chair and think about your decision. You have carefully examined the four basic parts. You have poked and pulled on the fabric or outer covering to test its strength and wearability. You've checked on the tailoring to be sure the upholstering of the fabric is quality workmanship. Secondly, you've sat in the chair and felt the padding and cushion materials and looked at the labels to see what they are. Next, you have checked for information about the number and type of springs used--or asked the salesperson if you could not determine yourself. Last, you've checked out the stability of the frame. Remember, if you have any other questions about the chair or have failed to find some of

BUYING UPHOLSTERED FURNITURE

VIDEO	AUDIO
	information we discussed, ask the retailer. The decision to buy is yours--make it a wise one.

BUYING WOOD FURNITURE

VIDEO	AUDIO
	Whether you're buying one piece of furniture or several--you'll probably think of furniture as a major purchase. That's why it's important to buy wisely. And that means you may do well to do some thinking before you head for the store. So make a plan. Evaluate the furnishings you have now. Decide what new pieces would make your room complete and what you can afford. Include the measurements of the area where you want to put the furniture. Obviously, a 72" dresser won't fit a 60" wall. Remember, it's not necessary to buy everything at one time. Decide what you can afford--then what you need most. Furniture can be an investment if you buy quality in combination with style and function. Right now, let's go shopping for wood furniture. There are three aspects of wood furniture that you should check before buying. These are (1) materials, (2) finish, and (3) construction. The first place to start is with the manufacturer's hangtag. The Federal Trade Commission

BUYING WOOD FURNITURE

VIDEO	AUDIO
	requires the manufacturer to indicate what materials he's used and how the piece is constructed. In other words, the hangtag tells you what you're getting for your money. It should help you make price and product comparisons, and should tell you the kind of care the item will require. If you can't find the tag, ask a salesperson. Let's look at the label more closely. You might see the term "solid." That means that all the areas that you can see are made of solid wood. Three four-inch wide strips of wood have been carefully glued together. In fact, you may be able to see a hairline where the two pieces of wood are joined. The frame may be made of another wood. "Veneer" is another term you'll see. Veneering involves putting thin layers of decorative wood on the top and bottom of plywood or chipboard. Veneer construction allows great flexibility. The veneering makes it possible to match fine grain patterns and to use inlays to create designs that aren't possible in solid wood.

BUYING WOOD FURNITURE

VIDEO	AUDIO
	Today, wood furniture in all price ranges is made of veneer construction. Veneering makes exotic woods such as rosewood more affordable to us. A piece of furniture in solid rosewood would be so high priced, it would be found only it museums and art galleries. Or a piece of solid ebony would be so heavy, you couldn't lift it or move it. Another term you might see is "printed" or "engraved." Manufacturers can print or engrave a natural wood grain pattern on a plain wood surface, and make it look like real wood veneer. The advantage is you can get beautiful furniture at a lower price. The disadvantage is the furniture is less durable and not easy to repair at home. Printing or engraving is best used on the sides of furniture. Some pieces of furniture may have plastic or laminated survaces. For some purposes these surfaces can be more practical than fine wood furniture. For example, in family rooms and children's

BUYING WOOD FURNITURE

VIDEO	AUDIO
	rooms where furniture may get lots of use and possibly abuse, it can be very practical. Laminated surfaces can be very attractive. In fact, plastic surfaces that are made to imitate wood should look so much like the real thing that they fool you at first glance. But this deception should be for the eye only. These surfaces should be labeled as to their true identity. This label indicates a "mahogany finish." That means it's been stained and finished to look mahogany in color and pattern. Speaking of the finish, let's look at it more carefully. Look at the front, top, and sides to see if they blend in color and graining. The pattern on the door and drawer should appear to be similar. Run your hand over the furniture. The wood should feel smooth. There should be no streaks, no drips, no particles. Ask the salesperson about the method of finishing. Inexpensive furniture may be finished in one operation. If so, it won't last long. It will chip or crack with use. On the other hand,

BUYING WOOD FURNITURE

VIDEO	AUDIO
	fine furniture may have 20 finishing steps, including hand rubbing. The result is a beautiful patina that lasts and lasts. Distressed finishes will not feel smooth to the touch. Since they are applied to give furniture a built-in, beat-up look, they will have dark, uneven marks. Distressed marks should be randomly spaced on the piece so they don't look faked. Distressed and matte finishes hide finger marks and scratches better than gloss finishes and are therefore good choices for the family room or a child's room. By the way, it's all right to mix furniture finishes in a room. You can create your own personal statement by mixing. Now let's look at construction features to check. Drawers are an ideal spot to check construction. So check to see how the drawers fit the openings. There should be equal space all around--with no more than 1/4-inch play when you move the drawer from side to side.

BUYING WOOD FURNITURE

VIDEO	AUDIO
	Pull the drawer out by one handle. Does it glide easily without wobbling? Close it by pushing one corner. If it's going to bind, it'll do it now. Examine the drawer carefully. Push on the bottom. It should resist, not buckle. Run your hand over the inside and outside to check smoothness. Look to see if there are glide strips for guiding the drawer. Look inside after the drawer has been removed. Is there a dust panel to keep clothing from getting caught on the drawer above? Medium-to-expensive furniture will probably have a wood or hardboard dust panel. Less expensive furniture will probably have one made of cardboard. However, some good quality modern styles have no dust panel at all, because of the way they're designed. The joints in the drawer should fit properly. Dovetail joints which have a tooth-like appearance are best. They should be fitted with no gaps and they should be sanded smooth. Avoid drawers that are put together with nails.

BUYING WOOD FURNITURE

VIDEO	AUDIO
	Look inside. Corner blocks are a sign of good construction. So look for triangular pieces of wood that have been screwed and glued for additional support and strength. Place your palms on the chest. Press down hard and attempt to rock it back and forth. The piece should neither wobble nor creak. Instead, it should feel heavy and well balanced. If the piece has doors, check them, too. Open and close each door a few times. Doors should swing open evenly without squeaking or rubbing, and they should fit snugly and evenly when closed. Push down on the open door. There should be little or no give. Look to see if there are catches in more than one place. These catches should help prevent sagging. Tap inset panels with your fingertips. If panels rattle, giggle, or feel loose, keep shopping. The hardware should be secured with screws that go through the drawer or door and these screws should be fastened with bolts or washers

BUYING WOOD FURNITURE

VIDEO	AUDIO
	to prevent falling off with use. Screws alone are not sufficient and nails--never! Quality hardware is cast of heavy metal and has no rough edges. Inexpensive hardware is usually made of sheet metal with cast handles that are hollow on the backside. But, if the furniture is acceptable in all other respects, buy it. You can always replace the hardware. If you're shopping for a table, check the same points you did with the chest. Read the label, check the finish, construction, and joints. Look underneath for reinforcement blocks. And rock it to verify stability. One additional point. Ask that the extra leaves be placed in the table so you can see how the mechanism works. Make sure the leaves fit properly and match in grain and finish. We've talked about three basic parts of wood furniture: (1) material construction--how to check to determine if the furniture is solid wood, a veneer, or a chipboard with an engraved

BUYING WOOD FURNITURE

VIDEO	AUDIO
	or printed grain, or a plastic laminate. Remember, all have their advantages and disadvantages. You must decide, based on your lifestyle and how much you can afford, as to which one you buy. Secondly, we've talked about finish. Read the label and then feel the finish. Ask the salesperson for information. The third part is workmanship/construction. Look inside and out. Open and close doors and drawers. Tap it, push it, and pull on it. Make sure it works like you think it should. Trying to keep all these points in mind may seem overwhelming at first. But, it may seem worthwhile when you find out that over a 15-year period a room full of good quality furniture won't cost you any more than your daily newspaper.

FURNITURE BUYING CHECKLIST

WOOD FURNITURE

Materials

Check the handtag for identification of materials

_____Solid wood with "2-4" strips of wood glued together
_____Veneer - thin layer of decorative wood
_____Printed grain - wood grain printed on plywood
_____Plastic laminated surface

Finish

_____Blend in color and grain on front, top, sides, and under edges
_____Pattern similar on doors and drawer
_____Feel smooth to the touch
_____No streaks, drips, or particles in finish
_____Depth of finish (If you cannot determine finish depth, ask salesperson about the method of finishing.)
_____Distressed finish has randomly spaced marks

Construction

_____Equal space around drawer opening
_____No more than ¼" play when drawer is jiggled
_____Drawer glides easily when pulled with one hand
_____No binding on drawer when pushed at one corner
_____Drawer bottom resists pressure, doesn't buckle when pushed
_____Smooth surface inside the drawer
_____Glide strips on bottom of drawer
_____Dust panel of wood or hardboard
_____Dovetail joints that fit tightly together
_____No nails to hold drawer together
_____Corner blocks underneath for reinforcement
_____No wobbling or creaking when rocked back and forth
_____Heavy, well-balanced feeling when rocked
_____Doors swing open evenly without squeaking or rubbing
_____Doors fit snugly and evenly when closed
_____Little or no give when pushing down on open door
_____Long doors with catches in more than one place
_____No rattling or jiggling when door inset panel is tapped with fingernails
_____Hardware secured tightly with screws and bolts
_____Hardware of heavy metal
_____No rough edges on hardware

Construction (Continued)

_____Extra leaves for table fit properly
_____Extra leaves for table match in grain and finish

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FURNITURE BUYING CHECKLIST

UPHOLSTERED FURNITURE

General

_____Legs, base, back in good proportion to each other
_____Color coordinates with present furnishings
_____Size appropriate with other furniture in the room

Fabric

_____Little or no light seen through fabric when held toward light
_____No backing material seen between the yarns
_____No yarn slippage when pressing on fabric with thumbs
_____No pulling of yarns when scratched with fingernails
_____No pulling of fabric when rubbed with pencil eraser
_____No color bleeding when fabric faces rubbed together
_____No color bleeding when rubbed with white handkerchief
_____No flaking of fabric backing when rubbed together

Construction

_____Cording straight where attached to frame
_____Seams straight
_____Buttons lined up correctly
_____Buttons securely attached
_____Skirt hangs straight
_____Skirt lined to maintain shape
_____Fabric smooth, no wrinkling or puckering on cushions
(except for "plumply" styled cushions)
_____Fabric design matched on back, seat, and front
_____Reversible cushions match pattern placement also
_____Even, tight stitches on quilted fabrics

Padding

_____Arms, corners, front rail feel smooth, not bunchy or lumpy
_____Cannot feel sharp edges of the frame anywhere
_____Padding (not springs) felt when hands pressed on seat deck

Cushioning

_____Sink gradually, not suddenly, when sit in chair
_____Height, depth, pitch comfortable to you
_____Feel bouyancy when bouncing in chair (not hit against frame)
_____Check type and number of springs (style will determine if "S" type or coil springs are used)
_____Springs placed closely together so no gaps felt
_____If coil springs used, tied 6-8 times
_____Check "Under Penalty of Law" tag for description of cushioning material
_____Depress cushion; should recover slowly, not pop back quickly
_____Compare foam cushions by weight--heavier cushion, more foam, less air--more wearability
_____Foam cushion wrapped with fiberfill for resiliency

Frame

_____No creaky, wobbly feeling when sit or bounce in chair
_____Exposed wood sanded and finished evenly
_____Corner blocks screwed, not glued, for stability
_____leg as an extension of frame, not screwed to frame or attached by metal plates

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