THE DEVELOPMENT OF AUDIO-VISUALS FOR THE INSTRUCTION OF SELECTED ART PRINCIPLES IN A BEGINNING CLOTHING SELECTION CLASS AT THE COLLEGE LEVEL

By

ANITA F. REYNOLDS

Bachelor of Science

Ball State University

Muncie, Indiana

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Thesis Approved:

Elaine Jorgensen
Thesis Adviser

Elizabeth C. Hillis

Brooklynn Sisler

D. Durham
Dean of the Graduate College

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INTRODUCTION

Significance of the Problem

One means of expressing beauty is through the wearing of clothing. In today's society the individual has the opportunity to express himself through a better appreciation of the principles of design as he selects clothing for his wardrobe. The development of the art principles in clothing design offers many opportunities to make the individual happier, more confident, and more pleasing to others.

A woman's choice of clothing is a very personal matter. This choice reflects her personal taste, her personality, as well as her attitude toward herself and others. McJimsey (36) says that a pleasing appearance helps to build morale, self-respect, and is important in achieving success both in the social and in the economic world. In summarizing the way clothing answers a need today, she states that a woman, "who understands the fundamental principles of good grooming and wise selection has a good start toward securing . . . a sense of security."

When selecting a wardrobe, the current fashion used alone is not dependable as a guide to good taste since the silhouette or design lines and colors that are displayed are seldom becoming to everyone. If the family income is to be used wisely for clothing purchases, it is essential that an individual have an understanding of the basic

principles of design and color, and practice the application of these principles to the selection of their clothing.

Many home economics teachers are faced with the problem of helping the young woman make wise selections of clothing; not only from the aesthetic point of view, but also from the practical and economic point of view. This phase of teaching can be applied to the choice of clothing for all occasions and to the recognition of standards in clothing which enhance each person to the optimum.

Each year improved instruction is needed at the college level because of general upgrading of curricula at the secondary level. Increased enrollment in the colleges and universities in the United States has presented the need for adequate numbers of qualified teaching personnel, and a shortage of classroom space and facilities.

The use of supplemental audio-visual aids has come to the fore in the last two decades to help ease these problems. Advantages in using these aids are numerous. Among the most important is the advantage of having identical material available to present to all groups of students enrolled in the same class. Only the most pertinent and clear audio-visual material need be presented, and unnecessarily lengthy explanations by the instructor are sometimes eliminated. These aids have the potential of cutting down costs for seldom-used demonstration equipment. They also allow a larger group of students to see intricate details not readily seen in a demonstration by the instructor.

Today's generation has also been greatly influenced by the technological revolution. They are accustomed to having their attention stimulated, and interest held by some type of communication medium such as television, movies and radio. As a nation we have become accustomed to

receiving communication through eye and ear. These tools have brought pictures, sound and action into both the home and the classrooms. Some may be concerned that audio-visuals will become tomorrow's teachers. But, "mechanical devices however good, will not replace sympathetic, dedicated teachers" (22). However, when teachers attempt to hold the attention of students with words and books alone, it frequently becomes a lost cause.

> Seventy years of research on teacher effectiveness has not added much to our systematic knowledge, and it is difficult to see how another seventy can do any more if the same procedures are followed, when every study must virtually start anew at the same place as it's predecessor, little gain can be made in an organized field of knowledge (53).

The application of modern tools of instruction can magnify the capacities of an outstanding teacher and multiply her effectiveness. They extend her inspiration, talents, and expertness to even a larger number of students. John Locke advocated education through the senses rather than rote memory. He felt that the senses mediate between man and world; that all knowledge finds it's origin in the ideals the senses give man, and is conversant about nothing else (13).

The home economics teacher can find many opportunities for using audio-visual materials, since home economics draws materials from a number of disciplines, and usually no one textbook covers all the material taught during a semester. Much of the information presented in home economics courses can be more effective when visually presented.

Imaginative teachers should be able to discover many creative uses of audio-visual materials and methods. The writer has found in her years of teaching that learning is often more enjoyable and perhaps more lasting when the student has a visual picture or object to which he may relate. The writer especially believes that audio-visuals are

needed in home economics classes in colledge in order to teach the necessary material in a two or three credit hour course.

Statement of the Problem

The major problem of this study was to develop audio-visual materials for the instruction of the concept, Selected Art Elements and Principles as Applied to Clothing. The audio-visual materials were developed for a clothing selection class at Bethany Nazarene College.

Description of Objectives

The objectives of this developmental study were:

1. To choose selected objectives related to the concept, Art Elements and Principles as Applied to Clothing, and determine what type of medium would be most suited to its instruction.
2. To develop a slide series and corresponding taped script on the selected objectives relating to proportion, balance, emphasis and harmony to be used for the concept, -- Art Elements and Principles as Applied to Clothing.
3. To evaluate the effectiveness of the slide series as a learning experience by administering a pre-test, and post-test.
4. To develop and administer an evaluation of the use of the audio-visuals presented, and to determine the acceptability of this as an instructional method in the clothing selection class.
5. To make recommendations for further study and use of audio-visuals in other concepts in the clothing selection course and in the department of Home Economics.

Delimitation of the Study

The study was limited in the following ways: (1) to use and evaluate audio-visual materials for one home economics class, which consists of thirty college women at Bethany Nazarene College, Bethany, Oklahoma, during the Spring Semester, 1969, (2) to the development of audio-visuals which consisted of 35mm slides and a magnetic tape recording, (3) to the instruction and evaluation of one major course concept, and four selected objectives.

Definition of Terms

Audio-visual materials refers to those materials which supplement teaching by providing education through sense perception.

Instruction includes the imparting of information, knowledge, understanding, appreciation and skills (55).

Clothing selection refers to and includes the principles of design as related to the selection of clothing.

Proportion is often called the "Law of relationships" (23) or the harmonious relation of parts to each other or to the whole (55).

Balance briefly stated is rest, or repose. Balance may be either symmetrical or formal, or asymmetrical or informal (23).

Emphasis is the art principle by which the eye is first carried to the most important thing in an arrangement, and from that point to every other detail in the order of its importance (23).

Harmony is the feeling of similarity between the lines, shapes and ideas which are used together (36).

Procedure

A questionnaire consisting of seven course objectives was developed and given to thirty students in a freshman and sophomore clothing selection class at Bethany Nazarene College. The purpose of the questionnaire was to receive their response as to the concept of most need and interest to them. From the findings of this questionnaire, it was determined that selected elements of art as applied to the individual choices of clothing was the course concept of most need and interest.

Several types of visuals were developed and used for the instruction of other concepts in the clothing selection course. The writer proceeded to evaluate what type of audio-visual media would be the most appropriate in attaining the course concept. This was done in the following manner: (1) evaluation of a questionnaire letter response, which was sent to twenty-five colleges and universities; (2) field trips to two college campuses using audio-visual media on their campus on a wide scale; (3) interview with a home economics professor, who teaches clothing selection at Oklahoma State University; and (4) review of literature.

In consideration of the information gained from the above sources, and also considering the ever changing trends in fashion design, it became apparent that the most desirable method to use in developing audio-visual would be one that could easily be updated, and flexible enough to be used for other uses outside of the classroom. It was on these bases that the decision to use the 35mm slides and a taped script was decided upon.

The writer first sketched drawings for each slide on 3" x 5" cards, and on the reverse side information was recorded that would be used in

writing the script. The sketched drawings were used by the artist and the writer in making the posters, from which each slide was taken. The writer took pictures of each poster with a 35mm camera, and indoor flood lights. A corresponding tape was written by the writer and recorded at Oklahoma State University.

After completing the slide-tape series, it was presented in a clothing selection class at Bethany Nazarene College where it was evaluated by the students. On the basis of the evaluation, recommendations and implications were made for further study. The effectiveness of the audio-visual learning experience was determined from the tabulation of the pre-test and post-test, and from a questionnaire reflecting the students' opinions of the instructional method.

The objectives of this study, delimitation, and testing group to be used, procedures and other information relevant to the development of the problem have been outlined in this chapter. Chapter II will present a review of literature relating to the background and utilization of audio-visual instruction, and the need for the extended use of audio-visuals in general and in higher education. Further information is presented depicting the effective use of audio-visuals in the instruction of clothing selection. Chapter III sets forth the procedure used in the development of the slide-tape series. Chapter IV presents the treatment of data. Chapter V concludes the study with a summary, conclusions, and recommendations for the further development of audio-visuals in the area of clothing selection.

CHAPTER II

REVIEW OF LITERATURE

The Need for Teaching Design Principles in Clothing Selection

With the increased emphasis in fashion and the rapid change in the style of one's clothing, the selection of clothing has undoubtedly become more difficult. What one wears at all times should be chosen for appropriateness as well as for flattery. A limited wardrobe, well planned can include the right things for most eventualities in living.

> To be reasonable 'in style,' women feel forced to adopt the variations characteristic of the given period, but should also have the right to relate those styles to their individual needs; thereby each developing her own 'style,' which looks especially good on her figure (36).

Most women want the clothes they choose to be somewhat individualistic and distinctive. In order for one to be individualistic in his clothing choices, there needs to be some guidelines which can serve as a basis in selecting and evaluating clothing designs. In developing one's own distinctive style of clothing, the dictates of fashion do not necessarily need to be the determining guide.

We can see that clothing, through its design and meaning can create a visual impression that may be expressive of philosophical ideals and attitudes. "Like other forms of artistic endeavor, fashion is subject to revolution and reaction" (28). Fashion designers for each period have a way of exaggerating the essential lines or art elements that

make it expressive of the times. Thus, it becomes more apparent why the instruction of the essential lines and art designs in clothing are necessary in order to provide a basis, or guidelines for individual selection and flattery in clothing.

Students can permit clothing choices to reflect them, their personality, and taste, and can confidently do this when they feel assured the design of their clothing compliments their figure type. Everyone has no doubt had the experience of feeling more at ease in one costume than others. Perhaps some hidden instinct concerning clothes seems to tell us when we make a good appearance, and at those times when we feel at ease; we are more apt to become masters of the situation.

Why should we not always strive for that inward satisfaction? A quotation from Ralph Waldo Emerson seems to clinch the point: "The sense of being perfectly well dressed gives a feeling of inward tranquility which religion is powerless to bestow" (17).

Brief Background of Audio-Visuals

Visual communication in the classroom is not entirely a new teaching innovation. As far back as 1865 the Physical and Biological Sciences, Industrial Arts, and Home Economics were using various types of visual media in the classroom (50).

The invention of printing from a movable type in the fifteenth century equals the invention of the wheel in the magnitude of the resultant social change. The vast amount of printed materials has practically eliminated illiteracy in many parts of the world.

Comenius in the seventeenth century published the first school picturebook. Illustrations from that time hence have played an

increasingly important part in instruction. A great deal of progress has been made in pictorial illustrations from the crude drawings of the Orbis Pictus and the New England Primer, to the woodcuts of some of the early college textbooks to the colored photography used in today's textbooks. Early psychologists referred to illustrated teaching as "object teaching," or "sense training" (51).

The invention of the phonograph in the latter part of the nineteenth century did for sounds what printing did for words, and the camera did for illustrations. First, there was the Edison tinfoil, later the wax cylinder, then the disc, and finally, in 1945, tapes were used (51). Recordings have come into common educational use to bring the world's great music and drama into the classroom. For individual listening, separate earphones may be used. The ear phones provide for 'feedback' training, in such classes as speech and language arts. Student and teacher comments concerning assignments, or supplemental material may be taped, thus increasing the effectiveness of the communication process.

It is difficult to establish a date for the beginning of audio-visual instruction in the United States, but in 1905, St. Louis set up the first audio-visual center connected with the schools. By the early twenties, about a dozen centers were scattered throughout the country. Today all cities of 100,000 and over have audio-visual centers, and many well-equipped, well staffed centers can be found in districts as small as twenty thousand (29).

Research in audio-visual instruction began in the nineteen-twenties, and more than one hundred doctoral dissertations have been completed since 1923. The first educational journal to be devoted exclusively to audio-visual instruction was The Educational Screen, first published in

1922. The most widely known journal is DAVI, the Department of Audio-Visual Instruction. DAVI, is a department of the National Education Association, and is a "national professional organization interested in improving education at all levels and in all subject areas through the use of audio-visual and other instructional materials" (29).

Audio-visual instruction gained momentum during and immediately after World War II. Large numbers of recruits were trained in a very short time, through the use of audio-visual methods (12). During the immediate postwar period, colleges, and universities showed a growing interest in the research of audio-visual instruction. Since 1948, continual growth and acceptance of audio-visual materials and equipment has been the result.

Need of Audio-Visuals in Today's Classroom

"No longer can one small head [that of the teacher] carry all that a student must learn. We must do something drastic to better enable us to handle the staggering build-up of new knowledge" (6).

In order for one to know the world, he should have the opportunity to experience it first hand. As educators we seek to lead learners into new fields of inquiry, but as the world becomes increasingly more complex, and more populated, some compromise in the form of a substitute experience must be used to "conceptualize the world." This is the essence of teaching communication. The route along which the messages travel may be thought of as a "communications channel" (56). Ideally, the communications channel carries both messages and counter messages. It involves imitation, reception, response, or, as it is sometimes called "feedback." Success in the classroom is closely related to the

clarity and understanding with which messages are communicated by teachers directly, or indirectly by the media chosen to be the most suitable by the teacher.

For centuries, the teacher's chief job has been the art of presenting information, and testing students. But now it has become more evident that the assignment of non-functional facts to be studied and remembered is somewhat out of place in schools today. Instead, teachers have come more and more to understand that learning is an active process and that their chief classroom tasks are to serve as diagnosticians, and organizers, or to provide varied learning experiences (5).

This brings to our attention the problem of individual differences in the teaching-learning process. Usually the more varied the sources from which information originates, the more apt and the more valid are the responses that occur between the teacher and learner, or among learners (56). In order for this to be achieved, individual initiative will become more imperative (18). Feedhusen (18) supports the idea of individual instruction with this statement,

> .....each individual must develop for himself, as a result of active involvement in many and diverse experiences, his own laws of adaptation to his environment, his own methods of analysis and utilization of facts, and his own rules and objectives.

As students are given more responsibility for their own education, they will need to be able to evaluate what they have learned or failed to learn (15). "Psychology is providing us with better information about teaching and technology is providing the tools to capitalize on this new knowledge" (33). It is only by taking advantage of the very newest instructional materials that adequate experiences with the modern world may be provided (3).

Barriers for Using Audio-Visuals Effectively

So much has been written in regard to the importance of the use of various sensory aids in the classroom, that sometimes one tends to forget that the use of them is as an aid to instruction, and not instruction itself. The critics of audio-visuals believe more consideration should be given to the limitations, and perhaps even the dangers inherent in over-dependence on audio-visual materials. Some of the major complaints made by the critics of audio-visuals are: (1) the over use of sensory materials in education may encourage a lack of knowledge; (2) the diluting of intellectual skills, such as reading; (3) the over-dependency on the use of sensory aids; (4) the lack of adequate evidence to substantiate the recommended degree of use; and (5) the possibility of purposelessness in the use of audio-visuals. Unfortunately some educators have made such remarks "I think they will learn something worthwhile," or "they like to do it, and it keeps them busy and out of mischief." Perhaps the greatest criticism of all is that possible equipment, audio-visual media, and programmed learning can take the place of the teacher. Whether audio-visuals can in any aspect do what an intelligent and competent teacher is doing as well, is worth careful consideration (34).

However, not all barriers to effective communication and learning are overcome by non-conventional, technological instruction. Some of the barriers the educator copes with are out-of-school interferences, and some barriers develop during the interactive classroom process.

The fact is that by the time a typical first grader arrives at school he has become a devotee of television, perhaps own his own radio, is a consistent reader of picture-story magazines, and purchases comic books. The influence of these factors are very real, and have generated forces outside the classroom which seriously affect the efficiency of the classroom communication techniques. "The teacher constantly finds herself in the midst of a battle for the attention of the learner" (56).

Undoubtedly, there may be some validity to the assertions of the critics, yet there must be a recognition that technology is now a fact in education. Opportunities to explore and further develop the instructional potentials of the new media techniques are numerous. The threat of technology, according to Brown (6),

> ... is not to deny or neglect the dangers of a situation; not to run away from it by destroying it and depriving oneself of it's advantages; but to realize the dangers and meet them with conscious action based upon personal decision. This neutralizes the danger, and lets us enjoy the advantages of technology without letting it deprive us of our humanity.

Suggestions for Using Audio-Visuals Effectively

The effective use of instructional materials can give zest and variety to the work of both the student and the teacher. Any number of audio-visuals will be of no avail to the learner, unless they are made an integral part of the on-going program. Dale (14) suggests that, "audio-visual materials must be seen in their relationship to teaching as a whole and to the learning process as a whole." Gleck (20), also suggests that, "resources should be selected to fit students and learn-situations." One must take into account: (1) the type of course taught; (2) the age and ability of the learner; (3) the size of the

class; and (4) the type of material to be presented, before the best choice of audio-visual can be made.

In addition to this, the instructor should prepare the class or group, so that the visual learning is an outgrowth of what is being taught. The follow-up period after a viewing or listening experience can be equally as important. Other advantages in using audio-visuals in the classrrom are: (1) to arouse interest; (2) to stimulate discussion; (3) to develop concepts; (4) to motivate, or inspire; (5) to review, or reinforce learning; and (6) to influence attitudes (19).

It is well to continually evaluate the materials one uses, and their effectiveness in the classroom. To use audio-visuals effectively one can see that it is necessary to prepare the material, prepare the equipment, prepare the group and prepare for a follow-up, all of which means the instructor must be well prepared, and have enough time for this planning. The following section contains information on the development and use of the audio-visual media used in this study. A later section will be presented relating various areas of audio-visuals in higher education.

Magnetic Tape Recordings

The tape recorder is an electronic device, which when used properly, can produce exciting and rewarding teaching-learning experiences. The tape recorder can be used as a mechanical memory or sound mirror, for both student or teacher use and improvement. It can be an assistant teacher through which directions or instructions can be given to students while the teacher is attending to other teaching tasks. Or it may be used to listen to a classroom discussion. The resulting tape will

usually be as enlightening to the teacher or discussion leader as it is to others in the group. Teacher led discussions, when analyzed from the tape, sometimes turn out to be surprisingly one-sided, with most of the discussion coming from the teacher. The tape recorder is a unique piece of instructional equipment, when one considers that it can be used equally as well with a room full of students as with the individual (56).

Some other advantages of the tape recorder are that magnetic tape offers by far the widest and most flexible medium for audio-learning materials. While records wear with use and can be damaged permanently if scratched, tape recorded material can be replayed for an indefinite time with little decrease in efficiency and is not easily damaged. If the tape should break, it can be repaired easily with a home splicing job (44).

Another important factor, is that if the tapes are stored properly in the original containers, they are not affected by dust or atmospheric conditions. They can also be stored easily in a minimum amount of space. Perhaps a major advantage of the magnetic tape is the relatively inexpensive machine which is used both to record and play back (44).

There are several kinds and types of recorders in use ranging from the reel and the cartridge, which vary in price from $15 to several hundred, even thousands of dollars. Recordings are made and replayed by a "magnetic means," with the sound patterns magnetically encoded on a plastic, mylar, or paper tape that is coated with an iron oxide. "In making a tape recording, sound waves are picked up by a microphone and instantaneously converted into a series of varying electrical impulses" (56). These impulses travel to a small magnet, which touches the moving

tape. The magnetic impressions on the tape are released by means of the electrical impulses, radiating from the magnetic head. Tape recorded materials are available in several speeds.

"Recorded materials comprise a flexible instrument of instruction" (56). In a relatively short time the audio-tape recorder has moved into the schools as a valued and widely used teaching tool. Its rapid acceptance has come both because it can provide a variety of learning experiences and because it is applicable to instructional goals in many areas of a curriculum.

The instructional medium to next be considered is one in which the coordinating of slides to a taped report or script can be done economically and easily.

Slides

Planning, shooting, and presenting 2 x 2 inch slide stories, offers one a unique and unusual opportunity for developing functional interesting student learning experiences. Planning is one of the major keys in developing functional and interesting student learning experiences. Planning is one of the major keys in developing and taking successful pictures. One should first determine the objective, or purpose of the slide series. One also needs to decide how to reach these objectives by answering such questions as the age of the learners, the desired length for the slide series, and exactly what one wants his students to know after viewing the slide series.

Once the objectives have been clearly identified and satisfactory answers given to the above questions, one is ready to make an outline for the story one wishes to tell with the slides. This is of prime

importance in writing a script which will correspond with each slide. A rough story outline is often developed by using index cards, or sheets of paper which will indicate the sequence, the shot content, emphasis, and perhaps a rough sketch of the desired subject matter. The cards then can be arranged on an easel or large cardboard in the order of the shots to be taken, and in the order needed, so that one may start writing a script to correspond with the slides (6).

There are many advantages in using slides. Flexibility is probably the principle advantage in using slides for teaching. Slide sets can be developed to fit a particular situation. A slide can be added here or omitted there to make the series more appropriate for various occasions. Slide sets may be revised by replacing outdated pictures with newer ones. Storage is another advantage in using slides. They may be stored in small sets, or units. Each slide is numbered and identified with a short title or code; or may be stored in the modern automatic 2 x 2 inch slide projector "trays," which serve both as storage boxes and as a part of the slide feed mechanism itself.

Some disadvantages are: that slides are somewhat more difficult to handle than filmstrips, and they can become easily disarranged, and they often do not include captions or titles. A well planned series requires much planning, time and money; but if the objectives are reached, one could quite naturally feel that the end justified the means.

Use of Audio-Visuals in Higher Education

To what extent should audio-visuals be used in higher education, how widely are they presently being used, for what type of courses are they used most effectively, and what will be their probable use in the

future? These are some of the most pertinent questions being asked by college administrators today. The discussion of literature related to the use of audio-visuals in higher education will in no way be a comprehensive or exhaustive one, rather a sample of surveys and recordings indicate as to the effectiveness of newer media in college teaching.

The most glamorous of the newer technological aids to education is television. Since 1954, Pennsylvania State University has been studying the effectiveness of courses taught for a full semester over a closed circuit television. Essentially, the results indicate that there is little loss in student learning in courses taught by television compared with courses taught conventionally. Students learned the information needed to pass examinations, and most did not object strongly to televised classes, although they preferred live instruction. Recognizing that student-teacher interaction is often important in learning, "two-way" microphone communication was set up, so that students could ask questions. This technique has been used more extensively at Iowa State (48). The Iowa survey found that this method of instruction was not superior to simple one-way communication, although students preferred two-way communication.

Another study in close-circuit instruction was developed at Miami University. The major finding from this research indicated that students who were enrolled in conventional classes scored higher on biology tests than those who were enrolled in the televised biology course. However, Purdue University found television instruction to be inferior to conventional instruction in mechanical engineering, and on some tests in calculus (47).

The teaching machine is a device for presenting text and test questions in predetermined sequences, and providing immediate knowledge of the results to the learner. The teaching machine permits the learner to proceed at his own rate. The questions proceed from the simple to the complex. If a student makes a series of correct responses, he may adjust the machine to skip some of the questions or if he chooses the incorrect response, the question may be repeated.

Although we usually think of tests in terms of their validity as measures of student achievement, it may be that their function as instrument for promoting learning is even more important. An experiment in the Air Force shows that performances benefitted from the return of multiple-choice tests with information about why the alternative choices were wrong, as well as why the correct choices were right. This technique proved superior to four other techniques which gave less knowledge of the results (37).

While one can hardly consider photographs or pictures new media, in recent years however, some new innovations for their use in teaching have been brought about for small or large classes by the use of acetate visuals, more commonly called transparencies, projected with an overhead projector.

Some advantages in using transparencies for classroom uses are their versatility and convenience, since it can be operated from the front of the room, thus enabling the teacher to face the class. Transparencies may be viewed in a fully lighted room, making note taking more convenient. Transparencies may also be used with overlays, or successive layers of transparencies, showing progressive stages of development, and sequences. The overhead projector may also save the

teacher time. The results of an extensive experiment at the University of Texas showed a saving of 15 minutes of every 60 minute period when transparencies were used (25).

A disadvantage to teacher made transparencies is that they often lack the professional look. Other precautions are to avoid too many details, use interesting designs and color; and if lettering is used, avoid using too much detail, or lettering smaller than one-quarter inch.

The Selection of Audio-Visual Media as a Method to be Used in the Instruction of Clothing Selection

At this time one cannot say what types of students learn well from a particular medium, as the amount of research on these problems is scanty. However one may conclude to some degree that when visual discrimination is integrated to achievement; in such courses as the biological or geological sciences, humanities, industrial arts, and home economics courses, films and still photographs may be a very economical and beneficial substitute for direct experience.

Thus far it does not appear that the instructor will be superseded. But the new media can be valuable in enabling the teacher to accomplish goals more easily and effectively. Just as the language laboratory can help students to be better prepared to gain maximally from class periods, so learning laboratories for other courses could provide printed materials, recordings, programmed materials, and filmed materials, to enable the student to review, to experience a new concept through the various senses, or to practice skills.

Dr. Fleck (20) says "we should have no hesitation about encouraging and exploring the possibilities of presenting materials in new and more vigorous and more vitalized manner than has previously been the case." Therefore, one may speculate that instruction through the use of the senses, combined with newer developments in technology will bring to pass new methods of teaching and hopefully increased learning. No doubt college professors, secondary and elementary teachers will approach these new instructional processes in several different ways, depending upon the structure of their discipline.

Oleta P. Moore (39) at Utah State Agricultural College completed research on "The Demonstration Method of Teaching Fitting Versus the Slide Lecture Method." The traditional demonstration method was developed in an introductory course to show the complete process of fitting garments. An experimental series of colored slides was made to show this complete fitting process. The same model and dresses were used for both the demonstration and lecture methods.

The research was evaluated by three methods: (1) an objective test, (2) the performance of the student, and (3) student appraisal of the course. Even though there were no significant differences in the two methods used, the slide lecture method was rated to have several advantages over the demonstration method. Some of the advantages given were: larger groups could view details more adequately, and any or part of the material presented could be reviewed.

Another research relating the study of design principles in clothing was completed in 1967, by Ruth Estella Hawthorne (27) at the Ohio State University entitled "Aspects of Design Preferences in Clothing: Aesthetic, Motivation, and Knowledge." The Barron-Welsh

Art Scale Test and the Design Preference in Clothing Scale were used in the study involving 72 undergraduate women in the beginning clothing classes. The Barron-Welsh Art Scale Test was selected and given in an attempt to determine general aesthetic preferences in clothing selection. The Design Preference in Clothing Scale was selected, and given to determine if there was a knowledge of the design principles as related to the selection of clothing.

Some conclusions that were deduced from the Hawthorne study were: (1) a relationship between general aesthetic preferences and clothing design preferences was not evident; (2) the two motives, self-approval and social-approval, are not strongly or consistently related to the general aesthetic preferences and design preferences in clothing choices. However, one significant conclusion from the study was: (3) selection of clothing is associated with the knowledge of the design or art principles as related to fashion.

Due to the information gained from the review of the literature, and the observance of multi-media instructional methods being used in two Oklahoma Colleges, the writer became interested in investigating and incorporating some new teaching innovations into the Home Economics Department at Bethany Nazarene College. Upon doing further research, the writer decided to investigate the use and development of audio-visual materials for teaching one major concept and four selected objectives in clothing selection. The procedure and method of development will be discussed in the following chapter.

CHAPTER III

PROCEDURE AND METHOD

The following discussion recounts: (1) the selection of subjects; (2) the preparation of the questionnaire; (3) the development of audio-visuals; (4) the development and administering of a pre-test, and post-test; (5) the presentation of an audio-visual learning experience; and (6) student evaluation of the learning experience.

Selection of Subjects

The participants in this study were thirty college freshman and sophomore students enrolled in one section of clothing selection during the Spring Semester of 1969 at Bethany Nazarene College, Bethany, Oklahoma. The clothing selection course is required of all home economics majors and is generally a prerequisite to other clothing courses. The clothing selection course is often chosen as an elective course by non-majors, as it can be used to fulfill one of the general educational requirements.

Preparation of the Questionnaire

After reviewing literature pertaining to clothing selection, and study of the course text, the writer decided upon the concepts for the clothing selection course. (See Appendix A.) A questionnaire relating to the seven course concepts was given to the thirty students in the

clothing selection class. Instructions were given to check the one course concept which they personally felt was of the most need and interest to them. The concept, or emphasis area of most need and interest to the students, as indicated from the tabulation of the questionnaire was, Art Elements and Principles as Applied to Clothing. Four objectives were selected to assist and relate to the teaching of the concept. The selected objectives were: (1) to provide information toward the understanding of proportion as it relates to the individual wearer and to other design elements, (2) to give some basis for the use of balance in clothing design, (3) to give some principles for the use of emphasis, and (4) to give some basis for harmony being the goal of all design.

The next step was to determine what instructional materials were already developed in clothing selection, and to determine what instructional method would be most appropriate for the instruction and understanding of this objective.

Early in the spring of 1969, a letter of inquiry was written and sent to several commercial companies and to twenty college and universities (see Appendix B) in an attempt to determine: (1) what audio-visuals had been developed in clothing selection, (2) in what particular areas visuals had been developed, and (3) approximately what date the materials were developed.

The colleges and universities were chosen on the following bases: (1) evidence of leadership and recent writings about methods and audio-visual developments at the respective schools as acquired from readings in the Journal of Home Economics, and (2) a geographic cross-sectioning of colleges and universities across the United States.

The information received from the letter of inquiry indicated that very few visuals had been developed for the instruction of clothing selection. The visuals which had been developed were mostly on the use of line and color in choosing clothing. However, one suggestion received from several inquiry letters, mentioned the difficulty in developing visuals for clothing selection that do not soon "date" themselves by the ever changing fashion cycles, and trends.

In the light of these opinions, and facts, the writer selected four objectives which were related to the major concept chosen by the thirty students in the clothing selection class. These particular objectives were selected to assist in the instruction of the major concept, "Art Elements and Principles as Applied to Clothing," for the following reasons: (1) evidence indicated by the questionnaire; (2) opinions, suggestions and data gathered from the letter of inquiry; (3) the art principles of proportion, balance, emphasis and harmony are established facts, not soon to become outdated; and (4) after several years of teaching, the writer believes that the art elements of proportion and use of it as it relates to other art principles in clothing is one of the more difficult design elements to teach effectively. Therefore, special emphasis was given to the instruction of the proportion as it relates to the design principles of balance, emphasis and harmony in clothing design and selection.

Development of the Audio-Visual Materials for the Study

The audio-visual materials developed for this study were: (1) to provide information toward understanding proportion as it relates to the individual wearer and to other design elements; (2) to give some basis

for the use of balance in clothing design; (3) to give some basis for the use of emphasis in clothing design; and (4) to recognize that the goal of all good design is harmony.

The writer decided to take slides from artistic drawings on poster boards, after considering a suggestion received from the letters of inquiry that a meaningful slide series be developed that would not "date" itself.

The writer investigated the possibility of using various colored poster boards, and drawing models illustrating the selected objectives in the design of clothing. The writer sketched rough outlined pictures relating to each of the selected objectives with special emphasis being given to the instruction of proportion by incorporating the use of balance, emphasis, and harmony. A story board was used to organize index cards in the proper arrangement prior to making the slides.

> A story board is a large sheet of poster board, separated into sections containing pockets made from strips of poster board and masking tape. Each section is numbered so that cards containing information about the slides may be arranged in order and rearranged whenever necessary until the series is completed. As each slide is made, a red X may be placed on the card. When an X appears on all the cards of the series, the cards may be removed, the sequence checked and revised if necessary. From the cards the script for the series may be quickly written (25).

The story board was of much assistance in the organization of the slides to be taken and in writing the script. The writer worked with an art student in the development of the poster pictures.

After the posters were finished, further experimental work was done in determining the best choice of film to use. The following types of film were used: (1) Ectachrome, Type B; (2) Ectachrome X; (3) Kodachrome II; and (4) Kodachrome Professional Type A. The

writer found Kodachrome Professional Type A to be the most successful in taking pictures indoors with incandescent flood lights, and with the assistance of a light meter. The pictures had sharper detail than those taken with High Speed Ectachrome. The major problem encountered in taking the pictures for slides was a "bright spot" or "glare back" from the shiny poster board, especially from the darker colors. This problem was solved by using the Kodachrome Professional Type A film and flood lights. Further success was achieved by standing at a 45^{o} angle at approximately a six foot distance.

Development of the Script

The script was developed from the story board arrangement of the posters to be drawn. A descriptive statement was written on the reverse side of the picture cards from the story board. Coordinating, rewriting, making a new poster, inserting a new slide was the necessary process before completion. Four references of special assistance in writing the script were: Color and Design, by Bernice G. Chambers; The Second Skin, by Marilyn J. Horn; Clothing Selection by Helen G. Chambers and Verna Moulton; and Art in Everyday Life, by Vetta and Harriet Goldstein.

The young lady chosen to do the narrating for the script was chosen for two reasons: (1) because of tone quality and expression in her voice, and (2) her previous experience in speech and dramatics. The script was taped on a 7 inch reel. The taping was done in an acoustically soundproof room so as to control common sound disturbances.

Production of the Magnetic Tape Recording

The script was taped onto a seven inch reel with 1.5 millimeter tape 1200 feet long. A soundproof room was used in order to eliminate background noise. An audible beep was added to the narration at the time of recording. The beep allows for the tape and slides to be synchronized, thereby freeing the projectionist from following a written script.

Background music, consisting of familiar popular music was added after the narration was completed. After the slide-tape series was completed, it was used in a clothing selection class at Bethany Nazarene College, Bethany, Oklahoma.

Development and Administering of a Pre-Test and Post-Test

The writer listed specific learnings which were based on the selected objectives, that she expected the thirty clothing selection students would learn from the audio-visual learning experience. It was on this basis that a pre-test and post-test was developed. In an effort to determine the effectiveness of the pre-test and the post-test, it was presented to ten upper division home economics majors. The test given to the ten majors consisted of ten true and false and fifteen multiple choice questions, consisting of three distractors for each question. The ten home economics majors were asked to write their suggestions for improving the test on the back of the last sheet.

The suggestions given most often were evaluated and were acted upon in improving and refining the test in the following ways: (1) one test was developed by combining the better parts of the pre-test and post-test, so there would be more validity in evaluating the effectiveness of

the learning experience; (2) the test was shortened, as the objective of the test was to get an indication of the student's knowledge in clothing selection; and (3) the test was limited to fifteen multiple choice questions offering four distractors for each question asked, and five matching questions. At this time the writer conferred with her advisor, and made further improvements in the test which was used as both a pre-test and a post-test. (See Appendix D.)

A class time consisting of 70 minutes was arranged for administering the pre-test to the thirty clothing selection students. The audio-visual learning experience was presented. The post-test was then given to each student in an attempt to measure the effectiveness of the learning experience.

The thirty clothing selection students were also asked to check an opinion questionnaire (see Appendix E), as to their opinion of the effectiveness of the audio-visual learning experience. The students were not to sign their names, and could check one of the six choices offered as to their opinion of the audio-visual learning experience. The six choices offered were: (1) extremely appropriate, (2) somewhat appropriate, (3) somewhat inappropriate, (4) extremely inappropriate, (5) neutral or uncertain, and (6) no reply. The tabulation from this questionnaire and other findings will be discussed in the following chapter.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The findings of the study will be discussed in the following order: (1) results of the student's choice of major course concept, as indicated from the questionnaire; (2) analysis of student's pre-test and post-test scores; and (3) discussion of the opinion questionnaire, tabulating the student's evaluation of the audio-visuals used in clothing selection.

Analysis of the Questionnaire

The questionnaire consisted of seven course concepts which would be taught in the one semester course of clothing selection at Bethany Nazarene College. The writer was desirous in knowing the students' choice of the one course concept which they felt to be of most need or interest to them. (See Table I.) The concept selected by the majority of the class members was concept number seven, Art Elements and Principles as Applied to the Design of Clothing. Two additional concepts which ranked high in student selection were: (1) Wardrobe Planning, and (2) Facial and Figure Analysis. Knowledge of Fabrics, Maintenance of Clothing, and Ways to Determine Quality Workmanship in Clothing Purchases were ranked low in interest and need by the student.

TABLE I

SEVEN COURSE OBJECTIVES IN CLOTHING SELECTION AS RANKED BY STUDENTS

Objectives	Number of Responses to Each Objective
Wardrobe Planning	6
Maintenance of Clothing	2
Ways to Determine Quality of Workmanship in Clothing Choices Before Purchasing	3
Knowledge of Fabrics	2
How to Dress Successfully for the Various Roles One Performs	3
Facial and Figure Analysis	4
Art Elements and Principles as Applied to Clothing	10
Total	30

Analysis of Student Scores on the Pre-Test and Post-Test

During the Spring of 1969, the writer developed a pre-test and a post-test based on the cognitive recall of the art principles of proportion, balance, emphasis, and harmony as related to individual clothing choices. Arrangements were made for a 70-minute class period so that the pre-test, audio-visual learning experience, and post-test could be given on the same day. Since the writer was testing the effectiveness of the learning experience, she believed it important to give the pre-test and post-test on the same day as the learning experience.

The test used as the pre-test and post-test was an objective test covering the information on the slide-tape series. The test consisted

of fifteen multiple choice questions, and five matching questions. The tests were scored on the basis of 100, with 5 points off for each question.

A graph representing the results of each of the thirty students' pre-test and post-test scores is presented in Figure 1. Table II presents the percentage of questions correct on the pre-test and post-test. The score range was wider on the pre-test with a forty-five point difference in the highest and lowest score made, but the top score remained the same on both the pre-test and post-test. There were forty points difference in the highest and the lowest score made on the post-test. The mean score for the pre-test was 69.0 and for the post-test the mean score was 78.17.

TABLE II

PERCENTAGE OF QUESTIONS CORRECT ON THE PRE-TEST AND ON THE POST-TEST GIVEN IN CLOTHING SELECTION

Pre-Test Score Range 45%-90%		Post-Test Score Range 50%-90%	
Number of Students N=30	Percentage	Number of Students N=30	Percentage
1	90%	5	90%
3	85%	7	85%
5	80%	11	80%
4	75%	1	75%
6	70%	1	70%
3	65%	4	65%
6	60%		
1	55%	1	50%
1	45%		

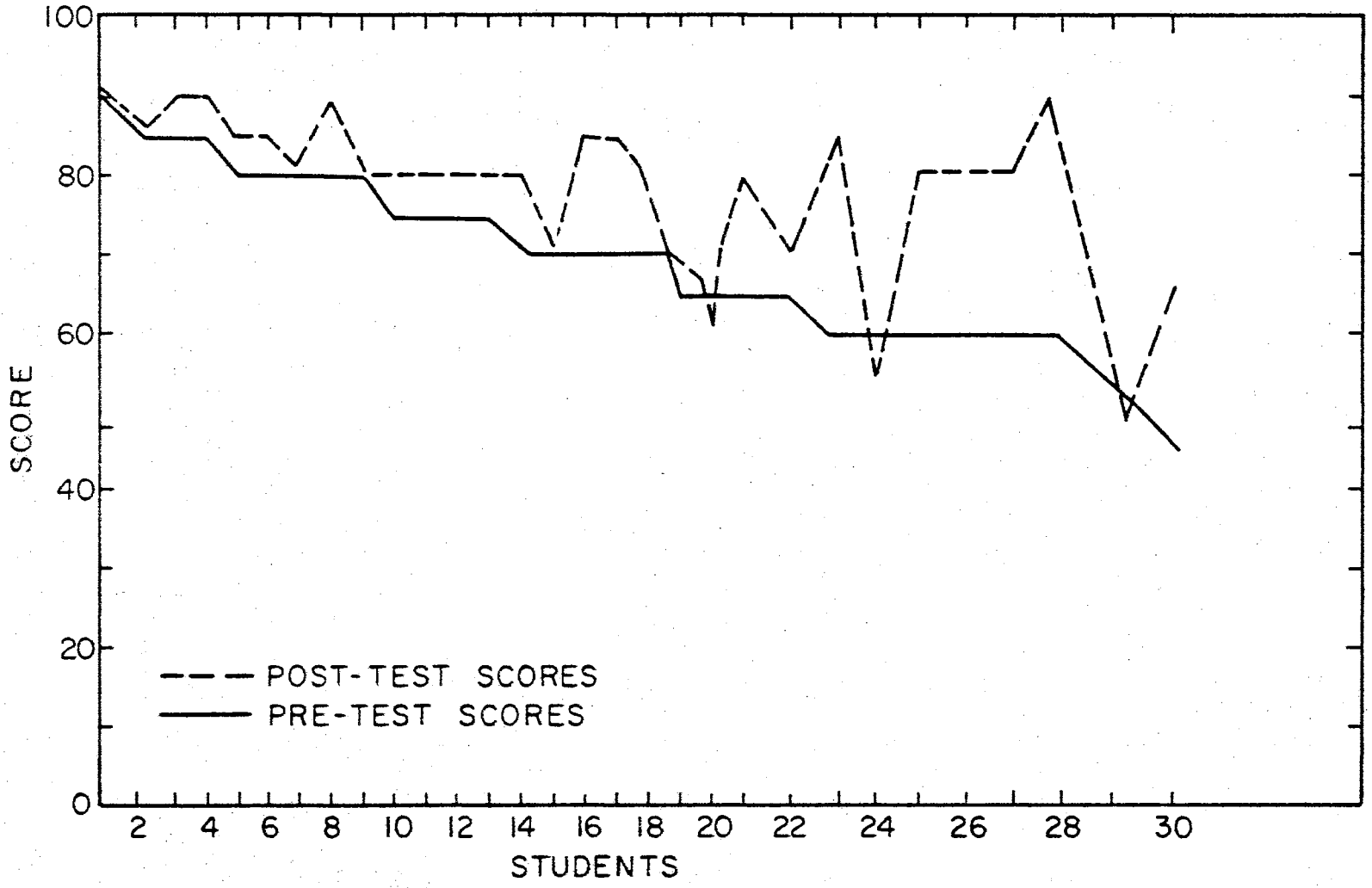

Figure 1. A Graphic Comparison of Each Student's Pre-Test and Post-Test Scores

Table III presents a comparison of each student's score on the pre-test and post-test, and indicates whether there was an increase or decrease in the post-test score. As observed in Table III, those students who ranked relatively high on the pre-test, also ranked high on the post-test, and those who ranked low on the pre-test, tended to rank low on the post-test.

However, the score for three students was lower on the post-test than on the pre-test. There were 21 scores that did improve, but did not double on the post-test. Because there was an increase in the post-test, it would appear that the slide-tape series was successful as a learning method.

The questions most often missed on the pre-test were Questions 9, 10, and 14. Each of the three questions dealt with the relationship of shapes and sizes, as related to proportion. In the writer's opinion, this is indicative of the problem of understanding abstract information as related to a particular idea, unless one can clearly see the problem solved by demonstrating the relationships. Perhaps all too often we expect the student to internalize the knowledge presented to him and to put it together in his own way. Mr. Barton Morgan (48) says that, "knowledge cannot be integrated simply by incorporating the term into the title or description of a course. Thus a more meaningful strategy and design to present a sequence of experiences for achieving the over-all, or behavorial objective is essential."

The questions most often missed on the post-test were Questions 12 and 15. Both of these questions apply the principle of proportion at the higher levels of thinking. Perhaps this points out the need for

TABLE III

COMPARISON OF INDIVIDUAL STUDENT SCORES ON THE PRE-TEST AND POST-TEST

Student	Pre-Test Score	Post-Test Score	Increase or Decrease Score
1	70	70	0
2	60	85	+25
3	85	85	0
4	60	65	+ 5
5	90	90	0
6	60	80	+20
7	85	90	+ 5
8	85	85	0
9	65	65	- 5
10	60	80	+20
11	80	85	+ 5
12	80	80	0
13	55	50	- 5
14	60	80	+20
15	70	85	+15
16	70	85	+15
17	75	80	+ 5
18	60	90	+30
19	75	80	+ 5
20	75	80	+ 5
21	75	80	+ 5
22	80	90	+10
23	70	80	+10
24	65	80	+15
25	65	65	0
26	70	90	+20
27	45	75	+30
28	80	85	+ 5
29	55	50	- 5
30	45	65	+20
Mean Score	69.0	78.17	

developing additional materials for student learning and problem solving at higher levels of the cognitive domain.

Student Evaluation of the Audio-Visual Learning Experience

The thirty students in clothing selection were asked to evaluate the audio-visual method of teaching the same day it was presented. They were instructed to check the effectiveness of the learning experience as being either: (1) extremely appropriate; (2) somewhat appropriate; (3) somewhat inappropriate; (4) extremely inappropriate; (5) neutral; and (6) uncertain, or no reply.

Twenty-seven students thought the audio-visual learning experience was extremely appropriate, two thought it to be somewhat appropriate, and one was neutral, or uncertain. Numerous students commented on the learning experience. One student said she "had never been able to understand how proportion related to clothing design before," even though she was an art minor. Another student commented on the learning experience as being the most compact lesson she had ever had. Several said the slide-tape series was very interesting.

The writer observed increased interest and attention among the class members throughout the learning experience. Because of the apparent student interest, the increase in the student's post-test scores, and the favorable student evaluation of the learning experience the writer is led to believe that the students both enjoyed and learned from the audio-visual method of instruction.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

We are living in a remarkable age. We have devised a rig for drilling through the earth's crust; we are investigating the depths of the oceans; and in July of 1969, we were able to send two men to the moon and bring them back successfully. For several years we have been able to orbit whole systems of communication satellites in fixed positions above the earth; however, by contrast we often continue to employ outdated and often ineffectual communication methods in our classrooms (8).

Home economics in higher education needs to be continually alert to newer methods in order to enable home economics to be of the most value in a technological society. Home economics has a unique opportunity to make use of the laboratory, where students may constantly experience new problems, and search for new innovations and answers.

This particular study was concerned with the development of audio-visuals for a clothing selection course at Bethany Nazarene College, Bethany, Oklahoma. The major problem of this study was to develop audio-visual materials for the instruction of the concept, Art Elements and Principles as Applied to Clothing. The selected objectives were: (1) to provide information toward the understanding of proportion as it relates to the individual wearer and to other design elements, (2) to

give some basis for the use of balance in clothing design, (3) to give some principles for the use of emphasis in clothing design, and (4) to recognize that the goal of all good design is harmony. The objectives were developed from the course concept, Art Elements and Principles as Applied to Clothing, which was the course concept chosen by the thirty students in clothing selection as being of most interest and need to them. The writer chose to develop audio-visual materials for the clothing selection course, as the clothing selection course at Bethany Nazarene College is one of the most often elected home economics courses. It perhaps is one of the most needed courses, as indicated from letters of inquiry from in-coming freshmen as to what type of clothing to bring, and also due to the varied social, cultural, and economic backgrounds of the students that come from practically every state in the United States and from several foreign countries. As indicated in studies cited in the review of literature, choosing one's clothing is an area of much interest and need to the individual person. One's clothing is a highly personal matter. It serves as a reflection of personal taste, and of attitudes toward oneself and others. Frequently it becomes a means of introduction and description of one's self to strangers.

A slide-tape series was chosen as the media to be used for the instruction of the selected objectives, as slides probably have the greatest flexibility of any visual considered. One can easily up-date a portion of the slide series, by simply replacing the slides with more recent ones. Also, one may elect to use only part of the series, for panel or discussion groups. A slide series may be used equally as well with a large group, as a small group; and duplicate sets can easily be made.

The audio-visual materials developed consisted of 44 colored slides with an accompanying taped narration. This slide-tape series was presented in a clothing selection class in the Spring of 1969, at Bethany Nazarene College. The students in this class evaluated the slide-tape series by completing a pre-test and a post-test over the objectives portrayed by the slide series. The students also completed a written evaluation of the slide-tape series.

Conclusions and Recommendations

The findings in the study seem to indicate that students learned and enjoyed the information given to them. Based on these indications, it would seem that teaching with the assistance of audio-visuals often makes learning more meaningful, stimulating, and lasting. Good visuals may also enable the student to relate factual data into practical application, and motivate students' interest (6).

The writer concludes that audio-visual instruction can be an effective instructional method in the classroom. From evaluating the responses of the students, the writer believes that developing one's own audio-visuals can make it possible to meet the needs of an individual class, as one may design the visuals to meet specific needs. The writer would further conclude from the responses of the students, that audio-visuals can heighten student interest and motivation, if used properly.

However, the writer wonders if the classroom teacher would have adequate skill and time necessary for the development of many types of audio-visuals. The writer spent approximately 170 hours in preparing posters, writing the script, and taking pictures. The writer spent approximately $20 for the film and film developing, and approximately

$10 for poster board, and $30 for the artist work, and $10 for a recording cost making a total cost of $68. The writer believes that the average classroom teacher would lack both the time and skill necessary for the developing of some audio-visuals, and would recommend that one have adequate practice before engaging upon a project, or work in conjunction with an audio-visual technician.

Some additional recommendations for further study are that additional major concepts of this study be amplified, and evaluative instruments be devised for developing major concepts in clothing selection. One could also re-test this audio-visual presentation to see if the students in this study had a long-term retention of learning. A similar study could be developed, using a clothing selection class as a control group, and measure the scale of achievement on the test used for the pre-test and the post-test, with and without the use of audio-visuals. Thus, this study could be compared to future studies. Further study could involve developing a plan whereby these audio-visual materials could be used for individualized instruction, by students who were absent, or for review, thereby increasing the flexibility of the materials. The writer would also recommend keeping up to date with commercial materials available.

The writer concludes that audio-visual instruction could aid the student in analyzing and studying through to some problems. Learning or a change in behavior can be accomplished by enabling the student to identify with improved methods or techniques of instruction.

Finally, the writer would conclude that the learning experience in this study has fulfilled the stated objectives. Tyler (53) states that the major step in curriculum planning is selecting, "learning

experiences that are likely to attain the chosen objectives." Such selection he says, "would be in terms of probable usefulness of the learning experiences." The writer hopes to have the opportunity to promote further work in developing audio-visual material for the department of Home Economics at Bethany Nazarene College.

A SELECTED BIBLIOGRAPHY

1. Allen, W. H. "Audio-Visual Communications." Encyclopedia of Educational Research, 3rd ed. edited by L. W. Harris. New York: Macmillan Co., 1960.

2. Bachman, John W. How to Use Audio-Visual Materials. New York: Association Press, 1956.

3. Biddle, Bruce J., and Peter H. Rossi. The New Media and Education. Chicago: Aldine Publishing Co., 1966.

4. Bond, Fred. Kodachrome and Ektachrome. 4th ed. San Francisco: Camera Craft Publishing Company, 1955.

5. Brown, James W., and Kenneth D. Norberg. Administering Educational Media. New York: McGraw-Hill Book Company, 1965.

6. Brown, James W., and James W. Thornton. New Media in Higher Education. Washington, D. C.: National Education Association Division of Audio-Visual Instructional Service, 1963.

7. Callahan, Genevieve, and Lou Richardson. Home Economics Show-How and Showmanship. Ames, Iowa: Iowa State University Press, 1966.

8. Carpenter, C. R. "Boundaries of Learning Theory and Mediators of Learning." Audio-Visual Communication Review, Vol. 10 (1962).

9. Chambers, Bernice G. Color and Design. New York: Prentice-Hall, 1951.

10. Chambers, Helen G., and Verna Moulton. Clothing Selection. 2nd ed. Philadelphia: J. B. Lippincott Co., 1961.

11. Chance, Clayton W. Experimentation in the Adaptation of the Overhead Projector Utilizing 200 Transparencies and 800 Overlays in Teaching Engineering Descriptive, Geometry Curricula, U. S. Office of Education. Title VII, Project 243. Austin: University of Texas, 1960.

12. Coffin, Thomas E. "Television's Impact on Society." American Psychologist, Vol. 10 (1955).

13. Cubberly, Elwood P. A Brief History of Education. New York: Houghton Mifflin Co., 1922.

14. Dale, Edgar. Audio-Visual Methods in Teaching. New York: The Dryden Press, 1954.

15. Davis, Frederick B. Item-Analysis Data. Cambridge: Graduate School of Education, Harvard University, 1949.

16. Deterline, William A. "Learning Theory, Teaching, and Instructional Technology." Audio-Visual Communication Review, Vol. 13 (1965).

17. Emerson, Edward W. Complete Writings of Ralph Waldo Emerson. New York: Wm. H. Wise and Company, 1929.

18. Feedhusen, J. A. "Reactions of College Students to a Self-Instructional Teaching Device and Programmed Instruction." AID (1961).

19. Finn, James D. A Possible Model for Considering the Use of Media in Higher Education, Vol. 15, No. 2 (Summer, 1967).

20. Fleck, Henrietta. "Teaching Aids Widen Communication." Practical Forecast. Vol. 9, No. 4 (December, 1963).

21. Fleck, Henrietta. Toward Better Teaching of Home Economics. New York: The Macmillan Co., 1969.

22. Gately, Olive P. "Sight, Sound, and Action." Forecast (January, 1963).

23. Goldstein, Harriet, and Vetta Goldstein. Art in Everyday Life. New York: The Macmillan Co., 1967.

24. Good, Carter V. Introduction to Educational Research. New York: Appleton-Century Crofts, 1963.

25. Gould, Grovalynn Foreman. "Guidelines for Development and Use of Selected Types of Audio-Visual Materials in Home Economics." (Unpublished Ed.D. dissertation, Oklahoma State University, Stillwater, 1968.)

26. Grooper, G. L. "Learning From Visuals; Some Behavioral Considerations." Audio-Visual Communication Review, Vol. 14 (Spring, 1966).

27. Hawthorne, Ruth Estella. "Aspects of Design Preferences in Clothing: Aesthetic, Motivation, and Knowledge." (Unpublished doctoral dissertation, Ohio State University, Columbus, Ohio, 1967.)

28. Horn, Marilyn J. The Second Skin. New York: Houghton Mifflin Co., 1968.

29. Hough, John B. "Research Vindication for Teaching Machines." Phi Delta Kappan, Vol. 42 (1962).

30. Hudleston, Edith M., and Naomi A. Sulkin. Comprehensive Report on Enrollment in Higher Education. U. S. Office of Education, Circular No. 743, 1964.

31. Kemp, E. Jerrald. Planning and Producing Audio-Visual Materials. San Francisco: Chandler Publishing Co., 1963.

32. Kettunen, Marietta. Fundamentals of Dress. New York: McGraw-Hill Book Company, Inc., 1941.

33. Li, Jerome C. R. Statistical Inference. Vol. I. Ann Arbor: Edward Brothers, Inc., 1964.

34. Lumsdaine, A. A., and Robert Glaser (ed.) Teaching Machines and Programmed Learning. Washington, D. C.: National Education Association, 1960.

35. McBeath, Ronald J. A Comparative Study on the Effectiveness of the Filmstrip, Sound Filmstrip, and Filmograph for Teaching Facts and Concepts. U. S. Office of Education, Title VII, Project 492. Los Angeles: University of Southern California.

36. McJimsey, Harriet Tilden. Art in Clothing Selection. New York: Harper & Row, 1963.

37. Miles, John R. Audio-Visual Aids, in the Armed Services, Implications for American Education. Washington, D. C.: American Council on Education, 1947.

38. Monroe, Paul (ed.) A Cyclopedia of Education. New York: The Macmillan Co., 1926.

39. Moore, Oleta P. "The Demonstration Method of Teaching Fitting Versus the Slide Lecture Method." (Unpublished Master's thesis, Utah State University, Logan, Utah, 1953.)

40. Norberg, Kenneth. "Perception Research and Audio-Visual Education." Audio-Visual Communication Review, Vol. 1 (1953).

41. Norberg, Kenneth. "Perception Research and AV Education." Audio-Visual Communication Review, Vol. 10, Supplement 5 (1962).

42. Osborn, Evelyn Loretta Howard. "A Study of Concepts Gained From A Clothing Selection at Oregon State University." (Unpublished thesis, Oregon State University, Corvallis, 1966.)

43. Patrie, Milton I. "Make Your Own 2 X 2 Slides." Educational Screen and Audio-Visual Guide, Vol. 40 (November, 1961).

44. Post, Gene L. Class Notes, Education 5750, Utilization of Audio-Visual Materials, Oklahoma State University, October 29, 1968.

45. Ryan, Mary S. "Effect on College Girl of Feeling Well Dressed." Journal of Home Economics, 43:799 (1951).

46. Sanford, Eleanor Muriel. "A Study of the Influences Affecting the Selection of Clothing for Freshmen Wardrobes by Home Economics Students at a Canadian College." (Unpublished Master's thesis, Michigan State University, East Lansing, 1960.)

47. Scriver, Judith Joan Linder. "An Exploratory Study in The Use of Visual Aids to Supplement the Beginning Clothing and Textile Program at Regional Campuses." (Unpublished Master's thesis, Purdue University, LaFayette, Indiana, 1966.)

48. Shiveley, A. E., and E. D. Roseburg. "Adequacy of College Wardrobes Judged." Journal of Home Economics. 40:81-82 (1948).

49. Stallings, Amelia. "A Study of Clothing Selection and Personal Appearance in Relation to Personality With Emphasis on Self-Acceptance." (Unpublished Master's thesis, Southern Illinois University, Carbondale, 1957.)

50. Stokes, Maurice S. An Interpretation of Audio-Visual Learning Aids. Boston, Mass.: Meador Publishing Co., 1956.

51. Trow, William Clark. Teacher and Technology. New York: Appleton-Century Crofts, 1963.

52. Turner, R. L., and N. A. Fattu. "Skill in Teaching A Reappraisal of the Concepts and Strategies in Teacher Effectiveness Research." Bulletin of The School of Education, No. 3, Bloomington: Indiana University, 1960.

53. Tyler, R. W. "Achievement Testing and Curriculum Construction." Trends in Student Personnel Work (edited by George Williamson). Minneapolis: University of Minnesota Press (1949).

54. Wassom, Earl Eugene. "The Study of The Effects of Multimedia Instructional Techniques On a College Freshman Library Orientation Program." (Unpublished Ed.D. dissertation, Oklahoma State University, Stillwater, 1967.)

55. Webster's 3rd. New International Dictionary (unabridged). Cambridge, Mass.: G. C. Merriam Co., 1961.

56. Wittich, Walter Arno, and Charles Francis Schuller. Audio-Visual Materials: Their Nature and Use. New York: Harper and Brothers Publishers, 1962.

APPENDIX A

STUDENT QUESTIONNAIRE, SELECTING COURSE CONCEPT

QUESTIONNAIRE

The following is a list of seven concepts which could be included in this course. Indicate your interest and need of the following concepts by numbering 1 as being of the most need and interest to you, through 7 as being of the least need and interest to you.

- Wardrobe Planning _____
- Maintenance of Clothing _____
- Ways to Determine Quality of Workmanship in Clothing Choices Before Purchasing _____
- Knowledge of Fabrics _____
- How to Dress Successfully for the Various Roles One Performs _____
- Facial and Figure Analysis _____
- Art Elements and Principles as Applied to Clothing _____

APPENDIX B

COLLEGE QUESTIONNAIRE AND COVER LETTER

Bethany, Oklahoma
March 10, 1969

Dear _____

I am presently working on my Master's Thesis at Oklahoma State University, and have received a research grant for developing Audio-visuals in Home Economics.

I am interested in finding out what visuals you have developed in the area of Clothing Selection, and what recommendations or suggestions you would have for further visual development in this area.

Thanking you in advance, I remain,

Sincerely yours,

Anita F. Reynolds
Home Economics Instructor
Bethany Nazarene College
Bethany, Oklahoma 73008

The following is a list of colleges and universities written to, inquiring about any visuals being developed, or being developed in clothing selection. Letter of inquiry was sent to twenty colleges and universities.

Name of College or University	Answered	Did Not Answer
Bowling Green State University Bowling Green, Ohio	X	
Brigham Young University Provo, Utah		X
California College of Arts and Crafts Oakland, California	X	
Colorado State University Fort Collins, Colorado		X
DePauw University Greencastle, Indiana		X
Iowa State University Ames, Iowa	X	
Kansas State University Manhattan, Kansas	X	
Louisiana State University Baton Rouge, Louisiana	X	
Pennsylvania State University Park, Pennsylvania		X
Purdue University Lafayette, Indiana	X	
Michigan State University East Lansing, Michigan	X	
Texas Woman's University Denton, Texas	X	
Texas Technological College Lubbock, Texas	X	

Name of College or University	Answered	Did Not Answer
South Carolina State Orangeburg, South Carolina		X
The Ohio State University Columbus, Ohio	X	
The University of Oklahoma Norman, Oklahoma	X	
The University of the State of New York Albany, New York	X	
Queens College Charlotte, North Carolina	X	
University of Minnesota St. Paul, Minnesota	X	
University of Oregon Eugene, Oregon	X	

APPENDIX C

SCRIPT NARRATION

Art Principles in the Selection of Clothing

1. Art principles in clothing selection.
2. This series was directed by Dr. Elaine Jorgenson, and produced by Anita Reynolds. Art work was done by Wendy James and script narration by Debbie Parrish.
3. In this slide series I would like for us to consider proportion as it relates to and includes balance, emphasis, and harmony; and as it relates to ....
4. ....Clothing selection.
5. Have you ever wished you could be shorter, taller, broader, ten pounds lighter? Practically all of us wish we could look just a little bit different than we do, and the remarkable thing is that we can actually change the way we look through the use of optical illusion. Let's first consider the principle of proportion in design.
6. Proportion is the size or scale of the part of a design to the whole.
7. As we see in the comparison of these sizes.
8. Or ..... proportion is the size or scale of the parts of a design to each other.
9. As we see here in the various proportionate divisions of space.
10. Now to illustrate another interesting and important factor in proportion, I have compared the relationship of the various shapes.

11. The Greeks were the first of all races to strive for beauty in design and art. They looked to the human figure as their prime example of classical beauty and proportion.
12. The ideal proportion is .....
13. A ratio of 2:3 in space division, or 7½ to 8 heads tall in the human figure.
14. A 2:3 ratio in the division of space or design has continued from the period of the Renaissance until the present time.
15. Before taking up the discussion of line arrangements in proportion, balance, emphasis and harmony in clothing design, let us briefly consider the proportions of the human figure. On the left model we can see that an unequal relationship or ratio is more pleasing and interesting. A good ratio of approximately 3 to 5, meaning there is approximately 3 head lengths above the waist and 5 head lengths below. The figure on the right has a ratio of 4 to 4, thus equally dividing the figure.
16. From this we can see that the height of a figure is less important than the proportions existing between the various parts of the figure.
17. Consequently, a study of the figure proportions, including the depth, height, weight and the relationship of the parts should be the basis for any dress design, because certain illusions may be created by lines and shapes to correct faulty figure proportions.

18. Here we see an example of proportion, or the relationship of one part of the figure to another being more important to consider in the selection of one's clothing, than is the weight or height of the figure. This narrower center panel design on the dress on the right, is more flattering to our chubby model, than is the design on the left.

19. Does it appear to you that the model on the left has longer arms than the model in the middle or on the right? Well, it appears that way to me, too, but actually all three have the same length arms, the difference being in the sleeve design. It also appears to me that the model on the right is shorter, but she is the same height as the other two. By changing one structural design the total costume relationship to the wearer improves. Good proportion includes the scale or size of a design and its relationship to the garment, and to the wearer.

20. Notice how the model with short legs, can optically improve the proportions of her figure by selecting clothes that have a vertical line.

21. We may accomplish proportion in both our figure's image and in our garment's design through the use of emphasis.

22. Here on our left is a fashion model, illustrating good proportion in the silhouette or structural design of the garment. The model on the right demonstrates that the silhouette, and structural design is changed by putting the point of emphasis at the neckline, thus calling attention to her best feature and camouflaging her poorer feature.

23. Better proportions can optically appear to be given to increase the apparent neck length, or shoulder width. It is especially important to select the most flattering neckline, as the face can always be one of the major centers of interest.

24. The short waisted girl could also effectively improve her appearance in clothing by choosing clothes that give a vertical direction, and a longer waisted look.

25. To give an illusion of greater height, the short, or petite girl could use vertical lines in the structural detail of the yoke and pockets to achieve good figure flattery and proportion. As we have learned, good proportion is the use of lines which apparently alter ratio, and as we can see that seems to be what happens by noticing that the short model on the right appears taller and thinner than the model on the left.

26. Carol, do you have a minute, we would like to confidentially ask you a question. "Have you noticed that the structural size of both the collar and the buttons are not proportionately scaled to your dress, or to you?" I think if you will look at this picture of June, you will see how the changes she has made, give a center of interest to the dress, improves the structural silhouette, and appears to be more balanced.

27. The structural design of a garment seems better balanced and proportioned, when one recognizes the significance of the relationship of parts.

28. The application of proportion would assure harmony of sizes within a design. This example of informal balance is satisfying, since informal balance is built into a structure.

29. Slide reading - Balance.

30. Balance in a design may be accomplished by the use of a contrasting design, or emphasis. If one has a small bust, the point of emphasis should be at the bust line, or upper waist, so as to achieve better balance and proportion in the figure.

31. This informal balance also embodies the principle of emphasis. The diagonal line leads the eyes to the point of emphasis and produces harmony, by continuance of the diagonal line, thus optically increasing the apparent height of the wearer as the design line becomes longer.

32. Informal balance, well proportioned, should give a satisfying relationship if the one-half design contains enough interest to correspond with the other half.

33. Dominance, or emphasis becomes important in camouflage because of the relationship of lines within a costume design, and also improves the proportion and balance of this figure with a large bust.

34. From viewing our middle triplet, we can see how good use of balance and proportion are important in achieving emphasis.

35. Here we see that a long waisted girl has a long proportion from the shoulder to the waistline. Optically she could improve her body proportions, by creating a center of interest or emphasis above the waist line. Do you recognize that when decorative lines are more dominant than structural lines,

emphasis is obtained. From this we may deduce that dominance, or emphasis becomes important in camouflage because of the relationship of lines within a costume.

36. Emphasis is achieved by the use of both structural and decorative design.

37. We see that our triplets are demonstrating proportion by the use of decorative design. The triplet on the left has a less pleasing proportion in her dress as she has evenly divided the design of her dress by the placement of her belt. Don't the triplets on the right and center both exhibit good proportion in the placement of their belt? One could best decide which belt placement to choose by directing emphasis to their best feature, thus calling attention away from less attractive features.

38. The placing of a decorative design will be conditioned by the structural lines that have been chosen. We like to feel that the decoration has grown out of the design.

39. And sometimes the same design in clothing can be worn equally well by different figure types, as long as the structural design is proportionally scaled, or in harmony with its wearer.

40. Now, girls, I know it's fun to try something different, but don't you think the scale of the garments design would look better if you would trade clothes with each other?

41. In those cases where one part of the body may not be pleasingly related to other parts, it is left to the individual, to remedy that lack of proportion in so far as it is possible,

by the best design in clothing. When fashion introduces a style in which the waist is pinched in to the point of discomfort, or the sleeves are extended to awkward proportions, the garment ceases to have a pleasing relationship to the figure. It should also be remembered that forms are more pleasingly related to one another in size and good proportion if there is much similarity, with enough variety in their shapes to escape monotony, but not so much variation to produce a lack of harmony.

42. We can look at nature and the structural beauty of proportion. The 3:2 ratio of both the strawberry and the pear, both beautiful, neither giving the appearance of being unbalanced and there is unity embodied in the design of the banana.

43. The triplets are incorporating the use of harmony, balance and proportion in their clothing design. It appears that the triplet on the right has been the most successful in leading the eyes to the point of emphasis and producing the continuity of harmony and proportion in the design.

44. Slide reading, The End, shown while final paragraph is read.

Final Paragraph:

We all know the adage that 'seeing is believing,' but sometimes when you look at lines, seeing is deceiving. The space division within the silhouette and the line direction itself has a marked optical illusion. An object can be made to appear larger, smaller, narrower, wider, or taller and wider, depending on the optical illusion created by the lines within the silhouette. Most of us want to create an illusion or to emphasize a certain part of the figure. Although we may

know, theoretically, what the effect of a specific line or spacing may be on an object, we cannot always be certain of the total effect of a given line or spacing on ourselves because of our own unique combination or proportions. To utilize principles of optical illusion we must thoroughly understand the principles not only in theory, but also in reference to ourselves. It is hoped that you will be more able to select clothes, that exhibit good design, and will be in good proportion to your figure. We also hope that you will be able to enhance your better features, and camouflage your poorer features by the use of balance and emphasis in your clothing design, thereby accomplishing the goal of all design ------- harmony.

APPENDIX D

STUDENT PRE-TEST, AND POST-TEST

Clothing Selection

Pre-Test and Post-Test

Choose the correct response to each of the following questions and record the alphabet letter on the answer sheet given you. Do not write on this paper.

_____1. Good proportion in space relationship is approximately the division of
a. one-half
b. two-thirds
c. the mid point between one-half and two-thirds of the original measurement
d. three-fourths
e. one-third

_____2. The human figure is the proportion of
a. 7½ to 8 heads lengths
b. 6½ to 7 head lengths
c. 7 to 7½ head lengths
d. 8 to 8½ head lengths
e. 6 to 6½ head lengths

_____3. The porportions existing between the various parts of the figure is less important than:
a. height of the figure
b. width of the figure
c. weight of the figure
d. frame size of the figure
e. both weight and height of the figure

_____4. The goal of all good design is:
a. balance
b. scale
c. harmony
d. alignment
e. proportion

_____5. In order to achieve good proportion in dress design, a long waisted person needs to have a skirt
a. shorter than someone else the same height
b. the same length
c. longer than someone else the same height
d. designed with pleats
e. designed with gores

_____6. To the wearer, good proportion in the design of the garment is achieved by:
a. balance
b. harmony
c. scale
d. rhythm
e. emphasis

_____7. The principle that means one part of a design is more important than other parts is.
a. balance
b. emphasis
c. harmony
d. proportion
e. rhythm

_____8. A short torso can appear to be longer by using line and design in clothing so as to improve the body's:
a. scale
b. proportion
c. alignment
d. height
e. balance

_____9. The human figure is an example of consistent relationships between:
a. the parts of the body
b. the wearer and garments chosen
c. emphasis and balance
d. harmony and thythm
e. alignment and posture

_____10. Good proportion in clothing is accomplished when there is a consistent relationship between:
a. the costume design and the wearer
b. scale and design
c. balance and emphasis
d. color and the design
e. fabric and the design

_____11. When all areas of a garment are equally divided the relationship is:
a. interesting
b. balanced
c. monotonous
d. systematic
e. dignified

_____12. In order to achieve good proportion in the placement of a lowered waist line one must consider:
a. total length of the dress
b. shape of the neckline
c. color of the belt
d. length of the sleeves
e. both length of dress and figure height

_____13. An example of good scale in clothing design is:
a. repetition of shapes
b. harmony of shapes to wearer
c. neither of the above
d. contrasting colors
e. small shapes

_____14. In choosing buttons for a double breasted dress for a short, chubby girl, one should keep in mind the:
a. size of buttons
b. distance buttons are placed apart
c. both the above
d. color of the buttons
e. number of the buttons used

_____15. Good use of balance and proportion are important in achieving:
a. interest
b. emphasis
c. rhythm
d. texture
e. line

MATCHING: Place the letter of the best description of the terms in the blank.

_____16. Proportion
_____17. Emphasis
_____18. Informal balance
_____19. Formal balance
_____20. Harmony

a. Equalization of attractions on either side of a central point.
b. Equalization of attractions of alike objects on each side of a design.
c. Goal of all design; unity between lines, shapes, color, texture, ideas and size.
d. Principle of dominance and subordination.
e. A pleasing relation of size of the parts to the whole and to each other.
f. Placement of different lines or colors on each side to give equalization.

APPENDIX E

STUDENT EVALUATION OF THE AUDIO-VISUAL INSTRUCTIONAL METHOD

FORM FOR STUDENTS RESPONSE AS TO THE USE OF AUDIO-VISUALS FOR TEACHING THE ART PRINCIPLES IN CLOTHING DESIGN.

Number of Respondents
N=30

_____Extremely appropriate

_____Somewhat appropriate

_____Somewhat inappropriate

_____Extremely inappropriate

_____Neutral, or uncertain

_____No reply

VITA

Anita F. Reynolds

Candidate for the Degree of

Master of Science

Thesis: THE DEVELOPMENT OF AUDIO-VISUALS FOR THE INSTRUCTION OF SELECTED ART PRINCIPLES IN A BEGINNING CLOTHING SELECTION CLASS AT THE COLLEGE LEVEL

Major Field: Home Economics Education

Biographical:

Personal Data: Born at Liberal, Kansas, June 2, 1936, the daughter of Reverend and Mrs. James M. Burns.

Education: Graduated from Liberal High School in 1954, attended Oklahoma Baptist University, Anderson College, and received the Bachelor of Science degree from Ball State University, with a major in Vocational Home Economics Education in June, 1959; completed requirements for the Master of Science degree, Oklahoma State University, May, 1970.

Professional Experience: Taught Vocational Home Economics, Anderson, Indiana, September, 1959 to June, 1961; taught in Oklahoma City Public Schools, August, 1963 to May, 1967. Accepted the position of Home Economics Instructor, Bethany Nazarene College, Bethany, Oklahoma, 1967.

Professional Organizations: American Home Economics Association; Oklahoma Home Economics Association; American Association of University Professors; Alpha Psi Omega, Beta Sigma Phi.