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Influence of selected variables upon clothing knowledge of fifth grade 4-H Club girls in McMinn County, Tennessee

Dorothy Marsha Carroll Flanigan

To the Graduate Council:

I am submitting herewith a thesis written by Dorothy Marsha Carroll Flanigan entitled "Influence of selected variables upon clothing knowledge of fifth grade 4-H Club girls in McMinn County, Tennessee." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.

Cecil E. Carter Jr., Major Professor

We have read this thesis and recommend its acceptance:

Robert Dotson, Helen Rader

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

INFLUENCE OF SELECTED VARIABLES UPON CLOTHING KNOWLEDGE OF FIFTH GRADE 4-H CLUB GIRLS IN MCMINN COUNTY, TENNESSEE

A Thesis

Presented for the

Master of Science

Degree

The University of Tennessee, Knoxville

Dorothy Marsha Carroll Flanigan

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ABSTRACT

The purpose of this study was to determine the clothing knowledge of fifth grade girls at the beginning of the year and again at the end of the year and the factors that affected that knowledge. The factors were related to the level of clothing knowledge as indicated by the differences in scores on pretests and posttests given at the beginning of the fifth grade and at the end of the fifth grade.

The 184 girls used in the study were from the fifth grade enrollment in the McMinn County, Tennessee, school system in 1973-1974. Information was secured by completion of two questionnaires and the testing device by the respondents.

The pretest and posttest scores were based upon content of the knowledge test regarding grooming, vocabulary, knowledge of recommended methods, terms and fabrics, and the identification of sewing equipment and the parts of the sewing machine. Tests of significance of differences in mean pretest and posttest scores were made using the t test. Those differences achieving the .05 level of probability were considered significant.

The t test and the .05 probability levels were also used when comparing clothing project members with non-clothing project members as to the clothing knowledge pretest and posttest scores.

Background information and personal characteristics of all respondents and educational experiences of clothing project members were analyzed on the basis of mean pretest and posttest scores on

clothing knowledge. These observed relationships were considered significant when a probability level of .05 or less was obtained using the analysis of variance "F" test.

Significant findings of the study were:

1. All respondents had a significant increase in clothing knowledge scores between the pretest and posttest on all sections of the clothing knowledge test.

2. The greatest increase in knowledge for all respondents was on sewing equipment. The least increase in knowledge was on recommended methods of construction.

3. Clothing project members had significantly higher posttest knowledge scores than non-clothing project members on grooming and parts of the sewing machine.

4. The relative increase in clothing knowledge scores was low for all respondents.

5. Four-H Club clothing project members who lived in a town and on a farm had higher pretest scores than those who lived in rural and rural nonfarm areas.

6. All respondents and non-clothing project members whose mothers were members of clubs and organizations had higher pretest and posttest scores than those whose mothers were not members of clubs and organizations.

7. All respondents whose fathers were employed in professional positions had higher pretest scores than other occupations. All respondents whose fathers were employed in industry had the highest posttest scores.

8. Girls who were the average age (i.e., ten years old) made higher pretest and posttest scores.

9. Higher grades recieved in school denoted higher pretest and posttest scores by clothing project members.

10. Prior hand sewing experience resulted in higher posttest scores for all respondents and higher pretest and posttest scores for non-clothing project members.

11. Prior machine sewing experience resulted in higher pretest and posttest scores for all respondents, higher posttest scores for clothing project members and higher pretest scores for non-clothing project members.

12. The availability of a sewing machine influenced the pretest scores of all respondents, clothing project members and non-clothing project members.

13. Those who received help with the clothing project had higher posttest scores than pretest scores.

Pretest and posttest scores on clothing knowledge found not to be significantly related were as follows:

1. Clothing project members did not differ from non-clothing project members as to total test scores on clothing knowledge.

2. Place of residence was not related to the pretest or posttest scores of clothing project members and pretest or posttest scores of non-clothing project members.

3. Family income was not significantly related to pretest or posttest scores of all respondents.

4. Employment of respondent's mother was not significantly related to pretest or posttest scores of all respondents.

5. Membership of the respondent's mother in clubs and organizations was not significantly related to pretest or posttest scores of clothing project members and non-clothing project members.

6. Sewing activity of respondent's mother was not significantly related to the pretest or posttest scores of all respondents.

7. Employment of respondent's father was not significantly related to the pretest or posttest scores of clothing project members or non-clothing project members.

8. Age of respondents was not significantly related to the posttest scores of clothing project members.

9. Grades received in school was not significantly related to the pretest scores of clothing project members.

10. Participation in extracurricular activities was not significantly related to the pretest or posttest scores of all respondents.

11. Prior hand sewing experience was not significantly related to the pretest scores of all respondents and the pretest or posttest scores of clothing project members.

12. Prior machine sewing experience was not significantly related to the pretest scores of clothing project members or to posttest scores of non-clothing project members.

13. Availability of a sewing machine was not significantly related to posttest scores of all respondents.

14. Availability of clothing project guide, use of the guide, completion of the project record, participation in a clothing

demonstration or participation in 4-H Dress Revue were not significantly related to pretest or posttest scores of clothing project members.

15. Help received with clothing project was not significantly related to pretest scores of clothing project members.

Implications and recommendations were also made.

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CHAPTER I

INTRODUCTION

Four-H work, that giant youth organization whose roots go deep into the rural and agricultural history of our nation, in 1975 reached over four million young people nationally. Tennessee's enrollment reached 205,454 young people, making the state first in the nation in number enrolled (20:2). McMinn County enrollment accounted for 2,319 of that number (12:1).

The 4-H idea cannot be traced to any one individual or section of the country. It took shape slowly in many places with many public-spirited people beginning home project programs for rural youth (17:viii, ix).

In 1914, the passage of the Smith-Lever Act created the Cooperative Extension Service by which practical information could be taken from the land grant colleges and universities and the Department of Agriculture to the people in their local environment. It insured the educational nature of the new agency by making it a third branch of the land grant system. Extension thus became a unique American innovation in education (2:3).

The Smith-Lever Act and legislation since then clearly indicated that work with youth was to be part of Extension. For a program to be accepted and respected it must continually meet new situations and needs. The overall purpose of education is to give youth the experiences,

knowledge and skills they need to become competent responsible adults. Youth must be educated to live successfully in new, changing and complex situations (9:1,2).

Today the informal education provided by the Agricultural Extension Service is especially designed to supplement and complement the training received in the home, church, school and other youth serving agencies. The primary responsibility of Extension is still to farm and rural youth but urban and suburban residents are also welcome (5:5).

The 4-H program offers youth a broad range of learning experiences. The 4-H Club project has come to be recognized as the primary teaching method to fulfill the intent of the Smith-Lever Act, emphasizing diffusion of useful information in agriculture and home economics. The project is a unit of study designed to accomplish specific objectives. The primary objective of 4-H projects is to provide real life work experiences which will contribute to the individual's growth and general adjustment, financial help, employment opportunity exploration and adjustment to the social environment (9:3,4).

The Tennessee 4-H Club Department lists a selection of 34 projects. The clothing project is third in popularity in the state with 33,223 members enrolled. McMinn County enrolled 238, 10 percent of the total enrollment, in the clothing project in 1975 (12:2).

From the garment making clubs of World War I days to the well rounded clothing project of today, clothing objectives have undergone changes and revisions to meet the current needs of youth.

I. PROBLEM

A project area that attracts such a large number of 4-H'ers requires constant study and evaluation to insure effective teaching methods. Byerly (1972) found that girls who remained in 4-H joined at a lower grade than did the dropouts (3:9). Nichols found in a study of 4-H participation of eighth and ninth graders in Bledsoe County that participation was higher among those who joined 4-H at an earlier age or lower grade (15:18). Jeter concluded from a study of factors related to 4-H membership status in Blount County, Tennessee, that special attention and effort should be given to first year members if holding power through high school years is to be increased (10:8).

Reenrollment and holding power are essential for an effective 4-H program. Failure to reenroll is a result of the situations in which many first year members find themselves that do not satisfy some of their basic needs (18:3).

Because of the importance of an effective 4-H program for this age group and because of the popularity of the clothing project, this area was selected for study.

II. PURPOSE OF THE STUDY

The purpose of the study was to learn more about how the background, personal characteristics and educational experiences of fifth grade girls affects their clothing knowledge. It was felt by the author that this information would enable extension agents to better understand future

fifth grade girls and adapt teaching methods to fit the abilities and needs of fifth grade girls in gaining clothing knowledge.

III. SPECIFIC OBJECTIVES

Specific objectives of the study were:

1. to determine the clothing knowledge of fifth grade girls at the beginning of the school year,

2. to determine the clothing knowledge of fifth grade girls at the end of the school year,

3. to determine if there had been a significant increase in clothing knowledge from the beginning of the year to the end of the school year, and

4. to determine the factors that affected the pretest and posttest clothing knowledge scores of fifth grade girls.

IV. LIMITATIONS OF THE STUDY

The present study was limited to fifth grade girls in McMinn County, Tennessee enrolled during the school year 1973-1974.

Data were limited to those secured from two questionnaires, a pretest and a posttest administered to the fifth grade girls enrolled in the McMinn County, Tennessee school system in 1973-1974.

Analysis of the data was limited to seven dependent variables and 18 independent variables. Respondents were classified into three groups: (1) all respondents, (2) clothing project members and (3) non-clothing project members. For each of these groups the mean

pretest and mean posttest clothing knowledge scores were determined for each of the six test sections and for the total knowledge test. These seven test scores were considered dependent variables.

The remaining 18 variables were considered to be independent variables and were divided into three major classes: (1) background information, seven variables, (2) personal characteristics, five variables and (3) educational experiences common to clothing project members, six variables. Variables included under the headings of background variables, personal characteristic variables and educational experience variables are given below:

Background information. (1) Place of residence, (2) level of family income, (3) employment status of mother, (4) membership status of mother in clubs and organizations, (5) employment of father, (6) sewing activity of mother, and (7) availability of a sewing machine.

Personal characteristics. (1) Age of the respondent, (2) grades most often received in school, (3) level of participation in extra-curricular activities, (4) prior hand sewing experience, and (5) prior machine sewing experience.

Educational experiences common to clothing project members. (1) Availability of clothing project guide, (2) use of the clothing project guide, (3) help received with clothing project, (4) completion of project record, (5) participation in clothing demonstration, and (6) participation in 4-H dress revue.

V. RESEARCH METHODS AND PROCEDURES

The Population

The population was all fifth grade girls enrolled in the McMinn County School System in 1973-1974. Data were secured from all those present in school (184 girls) when the two questionnaires were administered (i.e., a pretest and a posttest) in group situations at the school in which they were enrolled.

Data Collection Instrument

Through the guidance of the Tennessee Agricultural Extension Service Education Department and with the aid of Ms. Helen Rader, Professor and Leader of Clothing, Tennessee Agricultural Extension Service, two questionnaires and a testing device were developed. The questionnaires were designed to secure information needed about background information, personal characteristics and educational experiences of the population. The testing device, administered as a pretest at the beginning of the year and as a posttest at the end of the year, was designed to measure clothing knowledge. Information for the testing device was taken from Tennessee 4-H Members' Guide, Unit I, Let's Learn to Sew, prepared by Geneva D. Potter, Associate Professor, Clothing, Agricultural Extension Service, University of Tennessee.

The testing device (see Appendix) was divided into six sections to provide a variety of testing techniques and a thorough sampling of clothing knowledge expected of members who completed the first year 4-H clothing project guide. A description of the content in each test section and the scoring procedure follows.

Section I. Fifteen true-false questions were asked regarding knowledge of grooming habits and care of clothing. One point was allowed for each correct answer with a possible score of 15 on this section.

Section II. Six questions required respondents to match words with definitions in order to test clothing vocabulary. Three points were allowed for each correct answer with a possible score of 18.

Section III. Fifteen pieces of sewing equipment were numbered and on display. Respondents were asked to identify the pieces of sewing equipment by matching the number with the correct name listed on the test. Each correct answer was given one point with a possible score of 15.

Section IV. Fifteen samples of five different problems in clothing construction were prepared, numbered and on display. Respondents were asked to choose the best solution to the problem by matching the number on the sample with the choice listed on the test. Three points were allowed for the recommended method being chosen, two points for a less acceptable answer and one point for the least acceptable answer. Fifteen total points were possible.

Section V. Eleven samples of types of stitches, seam finishes and types of fabrics were prepared, lettered and on display. Respondents were asked to identify the stitch, seam finish and fabric by matching the letter with the correct term listed on the test. Two points were allowed for each correct answer with a possible score of 22.

Section VI. Fourteen major parts of a standard sewing machine were numbered and the machine put on display. Respondents were asked to identify the parts of the machine by matching the number with the correct name of the part listed on the test. Two points were allowed for each correct answer with a possible score of 28.

The total possible score for the test was 113 points.

Analysis of Data

The completed questionnaires were coded, pretests and posttests were scored, and responses were recorded on data sheets. Data were then punched on computer cards.

The 18 key independent variables were used in the analysis of factors relating to background information, personal characteristics and educational experiences and how they affected the mean pretest and posttest scores of all respondents, clothing project members and non-clothing project members.

The t test was used to determine the significance of observed differences in the scores made by all respondents, 4-H clothing project members and by nonmembers on each of the six test sections and on the total score for both the pretest and the posttest.

Analysis of variance procedure was used to determine the significance of relation between the test scores, dependent variables, and the independent variables. The "F" value for each variable was computed and those values which achieved the .05 level were accepted as being statistically significant. Although research and null hypotheses were

not stated, an assumed null hypothesis existed for each independent variable. All computations were made by the U.T. Computing Center.

VI. DEFINITION OF TERMS

In order that the author may have a common understanding with the reader of certain terms used in the study they are defined as follows:

4-H Club member. Individuals who enrolled in an organized 4-H Club by completing and turning in to the Extension agent a 4-H enrollment card.

4-H clothing project member. Individuals who selected clothing as an area of study for the current year by checking the appropriate area on the 4-H enrollment card.

Non-clothing project member. Any respondent who was not enrolled in the 4-H Clothing Project at the beginning of the school year.

Clothing knowledge. Included all areas of clothing information, grooming, wardrobe planning, care of clothing, clothing construction and consumer competence.

Clothing project guide. Tennessee 4-H Members' Guide, Unit I, Let's Learn to Sew, the University of Tennessee Institute of Agriculture, 1971.

Project record. A written account kept by the respondent on participation and accomplishments in the 4-H clothing project.

4-H Dress Revue. Annual event held on local, county, district, state and national levels to give recognition for accomplishments in the 4-H clothing project.

CHAPTER II

REVIEW OF LITERATURE

I. READINGS IN THE SUBJECT MATTER AREA

Education is defined by Martin as a change in knowledge, skills and attitudes (11:44). Wilson and Gallup define education as the production of changes in human behavior (6:4). Sanders states that learning is a personal matter in terms of the learner's own needs and interests as he perceives them. Learning is an active process. The learner reacts . . . it is a change in behavior--mental, emotional, or physical (19:65).

The overall purpose of education is to give youth the experiences, knowledge and skills they need to become competent, responsible adults (9:1).

Four-H Club work had been long recognized as an informal educational program. It complements and supplements and reinforces the educational programs of schools, homes and other institutions. The overall objectives of the 4-H Club educational effort is to help young people to:

1. Acquire knowledge, skills, and attitudes for a satisfying home and family life.
2. Enjoy a useful work experience, together with the responsibility and satisfaction of personal accomplishment.
3. Develop leadership talents and abilities to reach optimum citizenship potentials.

4. Appreciate the values of research and learn scientific methods of making decisions and solving problems.
5. Develop an appreciation of the importance of scientific agriculture and home economics and their relationships to our total economy.
6. Explore careers related to agriculture and home economics and recognize need for a continuing education.
7. Appreciate nature, understand conservation and make wise use of natural resources.
8. Develop traits of healthful living, purposeful recreation and intelligent use of leisure time.
9. Strengthen personal standards and philosophy of life based on lasting and satisfying values.
10. Develop attitudes, abilities and understandings for working cooperatively with others (5:6).

The specific objectives of the 4-H clothing project are:

1. To develop leadership abilities, build character, and assume citizenship responsibilities.
2. To build self-confidence and poise by developing:
   a. Appreciation of and skill in making the most of one's personal self.
   b. Judgment and creativity in planning an attractive wardrobe that expresses the lifestyle of the individual.
   c. Consumer skills in making and purchasing articles of clothing and accessories and in purchasing and using equipment related to clothing construction and care.

d. Appreciation of and skill in care of clothing.

e. Ability to evaluate and plan wardrobe needs and clothing skills. Plan for sharing clothing knowledge and skills with others.

3. To acquire knowledge of and develop skills in making articles of clothing for self and others.

4. To make useful articles of wearing apparel and accessories related to the wardrobe by crocheting, knitting, or by other practical needlecraft arts (15:15).

To educate youth, one must understand youth, his basic needs, interests and attitudes. There is no formula to which we can refer to obtain a precise, clear-cut characteristic of any girl at any particular age. However, different as individuals are, there is an orderly progression of growth within each. The ability to achieve any given accomplishment relates to natural endowments and things that have been learned previously. Havighurst explains that the "teachable moment" occurs when the demands from society to learn the task are the greatest, when the self is ready to achieve certain tasks. He defines these tasks as developmental tasks . . . a task which arises at or about a certain period in the life of an individual, successful achievement of which leads to his happiness and to success with later tasks, the failure of which leads to unhappiness in the individual, disapproval by society and difficulty with later tasks (8:2).

Fifth graders fall in the "late childhood" stage of life. They are characterized by the following traits:

Physical. At age 10, girls and boys are more nearly the same height and weight than at any other time in life. Prepuberty spurt of growth begins for many girls. It continues for 2-3 years. Puberty begins for many girls at 11 or 12. The growth spurt ends soon after onset of puberty. Between 9 and 11, growth in height may be as much as 1 1/2 to 2 inches a year; the most rapid spurt of growth usually occurs between 10 1/2 and 12 1/2. Girls of this age tend to be longlegged and rangy. The legs grow faster than the trunk. Skeletal muscles are growing rapidly, but lag behind growth in size. The development of the skeleton is a good indicator of other types of physical maturity. There is rapid eye development from farsightedness to nearsightedness. By 10 years of age, eyes have reached adult size.

Coordination. Preference in the use of the hands is established early in a child's life (no effort should be made to change left-handedness in connection with the teaching of sewing skills). Eye-hand coordination is usually well developed. Dawdling may be noticeable, especially in girls who are growing rapidly. They tend to be shy and sensitive. Children this age are able to sit still only for short periods. Forced attention at one thing for too long overtaxes both muscles and nervous system. Some girls of 10 or 11 can do close work with little nerve strain, especially when self-motivated. Awkwardness may be more noticeable than formerly. Motor control differs in different situations for each girl. Learning a skill requires much energy. A stage of increased coordination and cooperation is beginning; not only do the individual's mind, hands, and eyes work better together, but also children as a group can work better together.

Senses. The eyes of a girl this age need large print--no smaller than 12-point. At this age reading difficulties become more noticeable. Directions can be read and followed if they are simply stated. In reading directions, both past experience and vocabulary are put to use. A girl with good vocabulary does not necessarily possess skill in reading and following directions. The primary colors are still preferred. There are wide individual differences in sensitivity to color. This age girl has limited ability to plan ahead and organize time. While a girl this age has some sense of time in relation to past, present, and future, she is usually not too good at planning the timing of her own tasks. She is more likely to accomplish them with last minute "blitz." There still may be a great urge to feel, taste, and smell things (such as fabric). Grooming and clothing are directly and indirectly related to one's "sense of self." Judgment, depth, and distance may be poorly developed.

> Abilities. Girls of this age are able to finish a job if given time and the job is not too complicated. They can follow reasonable explanations. Because of wide discrepancy in ability to follow written directions, best results are obtained if a step or two are talked over and demonstrated. Most nine-year-old girls are able to cut and sew simple garments. They also like to knit, draw and sketch. These girls have high standards, but may have trouble staying with a job long enough to complete it. Most girls can keep simple records, but are unable to interpret their meaning. Girls of this age may be more willing to practice skills, but once tried offer little interest unless put to creative use. They begin to value their own work and to be critical of their own artistic products. Many are able to achieve a reasonable degree of neatness. Girls of this age are apt to lose interest quickly if discouraged or pressured. Most are very active and some seem to be able to do close work with little nerve strain. (13)

People are motivated to learn if they can satisfy a basic need through learning. Sabrosky lists the basic needs of first year 4-H'ers as follows: (1) their need for a sense of personal worth, desire for attention, desire for prestige, desire to excel; (2) their need for a continuing sense of personal security; (3) their desire for a feeling of accomplishment. Each first year 4-H member needs to have those experiences that will help satisfy these needs. Through subject matter work such as clothing, the 4-H'er can get some satisfaction of his desire for a feeling of accomplishment, attention, prestige and excelling (18:5).

Sabrasky gives these suggestions for meeting the basic needs of first year 4-H'ers: Consider each first year member as an individual of personal worth to the club and to the community. Make each first year member feel important when he first joins, during the club year, and at the end of the year. Make a special effort to visit club members' parents who show little interest in 4-H Club work. See that

every first year member has something special to do in carrying on club activities. Make certain that each first year member has the necessary information and supplies to complete his project. Work out several ways to give recognition to members who do not exhibit or compete. Have the club take part in some community activity that attracts favorable notice and gives prestige (18:2-5).

There are basically four theories of how learning takes place. They are trial and error, conditioning, insight and reasoning. Frutchey lists eight principles of learning that are important: (1) intensity, (2) readiness, (3) reinforcement, (4) association, (5) distributed learning experiences, (6) effect, (7) principles and (8) involvement (19:67).

In the above discussion, attention has been given to the learner. Now attention will be given to the teaching method. Conscious attention to organization of teaching activities in a sequence greatly increases the efficiency of learning. The steps in teaching are: (1) get the attention of the learner, (2) stimulate the learner's interest, (3) arouse the learner's desire for information, (4) convince the learner that he should act, (5) get action by the learner and (6) make certain that the learner obtains satisfaction from his action (6:7,8).

Martin states that boys and girls tend to learn what they have actually performed and thought important. Reading and discussion are generally not enough without participation (11:42). It has been discovered that the learning process is more readily assimilated if it appeals to the mind, eyes and ears simultaneously. Therefore, it

would seem that each club member should have the opportunity to learn by doing in giving method demonstrations (11:46,47).

Change in attitudes has been given little attention, but they are important because they tend to express themselves in actions.

Changes in attitudes usually occur as a natural result of growth. They often result from a change in responsibility, status or authority. Personal or national crisis may result in abrupt change in attitudes. Attitudes are also changed through rationalizations in order to accept a personal situation. Changes in attitudes can be planned by sharing in common knowledge, planning and decision making. It is necessary for persons to change attitudes so that different viewpoints can be integrated into a group program (11:48).

Implications for the clothing project in light of the above discussion are as follows:

1. The girls in the fifth grade clothing project have a compelling need to be like others, but they will differ in their need to belong to a group.
2. A clothing project for most girls this age should require only a short time to complete.
3. Girls should not be compelled to achieve a standard of perfection for which they have neither the maturity or the background.
4. Written directions should be simple and printed in large type.
5. Most girls 9 to 11 can learn to run a sewing machine more easily than they can learn to do fine hand sewing.
6. Awkwardness may prevent a girl from doing things for herself that she wants to do.
7. To influence attitudes, indirect teaching is more successful than a direct "do it this way."
8. Approval from one's family, as well as group approval is very important at these ages.
9. Records help girls organize what they have learned and evaluate their progress.
10. Each member should set a pace for herself which provides quality work without strain.

11. There are many abilities needed to make a garment. One should not be over prized to the exclusion of others (13).

The educational system is the chief instrument to further the ideal of individual fulfillment. We as Americans honor education, but its purposes must be seen in the broader framework of our convictions, concerning the worth of the individual and individual fulfillment. What we must reach for is a conception of perpetual self-discovery, perpetual reshaping to realize one's best self to be the person one could be. It includes not only intellect but emotion, character and personality. It involves adaptibility, creativeness and vitality and moral and spiritual growth. Learning for learning's sake is not enough. The educational task is to equip the individual for a never ending process of learning; his mind and spirit must be girded for constant reshaping and reexamination of himself (7:171).

Pease states that the 4-H program effectively integrates the learning of skills and information with the development of personality, attitudes and values. To reach the highest potential educational values of 4-H leaders must skillfully blend subject matter, methods, experience and relationships with individuals and groups. Leaders and members must recognize and make the adjustments necessary to meet new situations and needs. In achieving these goals, 4-H will merit respect and support as an educational program (9:5,6).

II. RELATED STUDIES ON THE SUBJECT MATTER AREA

Davidson (1965-66) found in her study of factors affecting knowledge retention of first year 4-H clothing project members in

Allen Parish, Louisiana, that higher "after" test scores were significantly related to the following variables:

1. being older
2. making more garments by hand
3. enrolling in more than one project
4. filling in all of the project record
5. turning in of the project record
6. encouragement at school
7. making a drawstring apron
8. attending a workshop
9. participation in 4-H activities
10. winning awards and receiving recognition
11. observation of a method demonstration

Those factors found not to be statistically related were:

1. differences in grades in school work
2. differences in prior use of the sewing machine
3. differences in place of residence
4. occupation of the father (4)

Picou (1967) in a study of factors relating to level of sewing knowledge of 4-H clothing project members in LaFourche Parish, Louisiana found the following information:

1. The girls with the highest level of sewing knowledge had the highest scholastic grades.

2. Respondents who had used the sewing machine most frequently prior to joining 4-H were in the higher scoring group.

3. Respondents whose mothers did not work outside the home tended to have higher scores on the level of sewing knowledge test.

4. Parental encouragement was a significant factor related to level of sewing knowledge of respondents. Those receiving the greatest amount of parental encouragement tended to have the higher test scores.

5. Record completion was a significant factor associated with the level of sewing knowledge of respondents.

6. There was a definite significant association between completion of "Know Your Sewing Machine" training and the level of sewing knowledge of the respondents. Those receiving training had the highest test score.

7. The place of the training and the number of lessons were significantly associated with higher test scores. Those receiving four or more lessons by neighborhood leaders had the highest scores.

8. Clubmembers completing an apron, participating in achievement day also proved to be significantly associated with higher test scores of clothing knowledge (16:59-64).

CHAPTER III

FINDINGS OF THE STUDY

I. INTRODUCTION

This study was designed to assist Agricultural Extension Agents by determining factors associated with clothing knowledge of fifth grade girls.

For adequate assessment of clothing knowledge of fifth grade girls, it was felt desirable to determine the level of clothing knowledge at the beginning of the school year and again at the close of the school year. The knowledge scores were measured by testing. No manipulative skills possessed by the respondents were measured.

Included in the study were 184 fifth grade girls in McMinn County, Tennessee, during the 1973-1974 school year. The respondents completed a pretest and a posttest in group situations at the school in which they were enrolled. The pretest scores ranged from 26 to 83 with a possible score of 113. The posttest scores ranged from 17 to 99 with a possible score of 113. The mean pretest score was 53.9. The mean posttest score was 61.6.

The t test was used to determine the significance of observed differences in the scores of the six sections and the total score of the pretest and the posttest for all respondents, clothing project members and non-clothing project members. Values which achieved the .05 level were accepted as being statistically significant.

Analysis of variance procedure was used to determine the significance of relation of mean test scores to the independent variables. The "F" value for each variable was computed and those values which achieved the .05 level were accepted as being statistically significant.

All computations were made by the University of Tennessee Computing Center.

The first question to be raised in considering this study was, "Did a significant change in the clothing knowledge of fifth grade girls occur during the period of time the first unit of the clothing project was available for them?"

This question was answered by comparison of the mean pretest scores with the mean posttest scores for clothing memebers only and for non-clothing project members only.

For further comparison, each section of the test was then analyzed using the same procedures. The purpose of this analysis was to determine what area of clothing knowledge was the weakest among fifth graders and whether significant differences in test scores existed among clothing project members and non-clothing project members when analyzed separately.

Other analysis were made to determine the influence of selected variables upon the pretest and posttest clothing knowledge scores among all respondents, 4-H clothing project members, and nonmembers. Findings from this analysis were organized into three sections. The sections, each including several independent variables, are as follows: background information on respondents, personal characteristics of respondents and education experiences.

II. COMPARISON OF MEAN PRETEST AND POSTTEST CLOTHING KNOWLEDGE SCORES OF ALL FIFTH GRADE GIRLS IN MCMINN COUNTY, TENNESSEE

Table 1 gives the mean pretest and posttest clothing knowledge test scores for each of the six test sections and for the total test; also shown are the changes in mean test scores, the t values and significance levels for all respondents, clothing project members and non-clothing project members when analyzed separately.

Comparison of Mean Pretest and Posttest Clothing Knowledge Scores on Grooming

The mean pretest and posttest scores on clothing knowledge, the change in scores, the t value, the significance level, and the percentage of correct answers and the percentage of change in knowledge scores about grooming by all respondents, clothing project members and non-clothing project members are shown in Table 1.

All respondents. The mean pretest for all respondents was 11.8. The mean posttest scores was 13.1. This was an increase of 1.3 points which was found to be significant at the .05 level of probability when analyzed by the t test. All respondents had 78.7 percent of the answers in Section I (i.e., grooming) correct on the pretest, 87.3 percent of the answers correct on the posttest for a mean increase of 8.7 percent.

Clothing project members. The mean pretest score for clothing project members was 11.8. The mean posttest score was 13.1. This was an increase of 1.3 points which was found to be significant at the .05

Table 1

Comparison of Mean Pretest and Posttest Clothing Knowledge Scores of Fifth Grade Girls in McMinn County, Tennessee

Clothing Knowledge Test Variables	All Respondents (n=184)				Clothing Project Members (n=87)				Non-clothing Project Members (n=97)			
	Pre-test Score & % Correct	Post-test Score & % Correct	Change in Scores & % Correct	t Value & Sig. Level	Pre-test Score & % Correct	Post-test Score & % Correct	Change in Scores & % Correct	t Value & Sig. Level	Pre-test Score & % Correct	Post-test Score & % Correct	Change in Scores & % Correct	t Value & Sig. Level
Section I Grooming (Possible Score: 15)	11.8 78.7	13.1 87.3	1.3 8.7	8.31 .001	11.8 78.7	13.1 87.3	1.3 8.7	8.31 .000	11.8 78.7	12.9 86.0	1.1 7.3	5.23 .000
Section II Clothing Vocabulary (Possible Score: 18)	3.7 20.6	5.4 30.0	1.7 9.5	4.55 .000	3.8 21.1	5.4 30.0	1.6 8.9	4.55 .000	3.6 20.0	5.4 30.0	1.8 10.0	3.69 .000
Section III Sewing Equipment (Possible Score: 15)	7.7 51.3	9.5 63.3	1.8 12.0	7.08 .000	7.7 51.3	9.5 63.3	1.8 12.0	7.08 .000	7.5 50.0	9.4 62.7	2.0 12.7	5.23 .000
Section IV Recommended Methods (Possible Score: 15)	10.3 68.7	10.6 70.7	0.3 2.1	1.93 .055	10.3 68.7	10.7 71.3	0.4 2.6	3.21 .055	10.3 68.7	10.5 70.0	0.2 1.3	0.52 .605
Section V Sewing Terms Fabrics, and Methods (Possible Score: 22)	8.3 37.7	9.4 42.7	1.1 5.0	2.22 .028	8.3 37.7	9.4 42.7	1.1 5.0	2.22 .028	7.6 34.5	9.0 40.9	1.3 6.4	1.94 .055

Table 1 (continued)

Clothing Knowledge Test Variables	All Respondents (n=184) Pre-test Score & % Correct	Post-test Score & % Correct	Change in Scores & % Correct	t Value & Sig. Level	Clothing Project Members (n=87) Pre-test Score & % Correct	Post-test Score & % Correct	Change in Scores & % Correct	t Value & Sig. Level	Non-clothing Project Members (n=97) Pre-rest Score & % Correct	Post-test Score & % Correct	Change in Scores & % Correct	t Value & Sig. Level
Section VI Parts of the Sewing Machine (Possible Score: 28)	12.5 44.6	13.7 48.9	1.2 2.3	2.89 .004	12.5 44.6	13.7 48.9	1.2 4.3	2.89 .004	12.1 43.2	12.9 46.1	0.8 2.9	1.51 .133
Total Test Score (Possible Score: 113)	53.9 47.7	61.6 54.5	7.7 6.7	8.04 .000	53.9 47.7	61.6 54.5	7.7 6.7	8.04 .000	52.7 46.6	60.0 53.1	7.3 6.5	5.53 .000

level of probability when analyzed by the t test. Clothing project members had 78.7 percent of the answer correct in Section I of the pretest and 87.3 percent of the answers correct on the posttest. This was a mean increase of 8.7 percent on correct answers.

Non-clothing project members. The mean pretest score of clothing knowledge for non-clothing project members was the same as for clothing project members, 11.8 points in Section I. However, non-clothing project members had a lower posttest score than clothing project members (12.9 vs. 13.1). Non-clothing project members had a mean increase of 1.1 points which was found to be significant at the .05 level of probability. This group had 78.7 percent of the answers correct on the pretest, 86.0 percent of the answers correct on the posttest for a mean increase of 7.3 percent.

Comparison of Mean Pretest and Posttest Clothing Knowledge Scores on Clothing Vocabulary

Comparisons of mean pretest and posttest scores on knowledge of clothing vocabulary and the change in scores were made for all respondents and for clothing project members and non-clothing project members separately.

All respondents. All respondents had an increase of clothing vocabulary knowledge from the pretest to the posttest (3.7 to 5.4 points). This was an increase of 1.7 points, which was found to be significant at the .05 level. On the pretest, all respondents had 20.6 percent of the answers correct compared to 30.0 percent of the answers correct on the posttest. This was an increase of 9.5 percent in correct answers.

Clothing project members. Clothing project members had a slightly higher pretest score in clothing vocabulary than did all respondents (3.8 vs 3.7 respectively). However, their mean score on the posttest was the same as all respondents (5.4 points). Clothing project members had an increase of 1.6 points which was significantly related to Section II Clothing Vocabulary. Clothing project members had 21.1 percent of the answers correct in this section on the pretest and 30.0 percent correct on the posttest. This was an increase of 8.9 percent.

Non-clothing project members. Non-clothing project members had slightly lower mean scores on the pretest in Section II than did clothing project members (3.6 vs. 3.8 points). The posttest mean score for this group was 5.4 points to give them a greater change in scores from the pretest to the posttest than the clothing project members (1.8 vs. 1.6 respectively). Non-clothing project members had 20.0 percent of the answers correct on the pretest and 30.0 percent correct on the posttest for an increase of 10.0 percent. These findings were significant at the .05 level.

Comparison of Mean Pretest and Posttest Clothing Knowledge Scores on Sewing Equipment

Comparisons of mean pretest and posttest scores on knowledge of sewing equipment and the change in scores and the percentages for these scores were made for all respondents and for clothing project members and non-clothing project members separately.

All respondents. All respondents had a mean pretest score of sewing equipment knowledge of 7.7 points. Their mean posttest score

increased to 9.5 points, or an increase of 1.8 points. This increase was significant at the .05 level of probability when analyzed by the t test. All respondents had 51.3 percent of the answers correct on the pretest, 63.3 percent of the answers correct on the posttest for an increase of 12.0 percent between the tests.

Clothing project members. When considered separately, the clothing project members had the same test results as the total group in sewing equipment knowledge. The mean pretest score was 7.7 compared to the mean posttest score of 9.5. The increase of 1.8 points was significant at the .05 level. Clothing project members had 51.3 percent of the answers correct on the pretest, 63.3 percent correct on the posttest for an increase of 12.0 percent more correct answers.

Non-clothing project members. Non-clothing project members had slightly lower pretest scores of sewing equipment knowledge than did clothing project members (7.5 vs 7.7 points respectively). The mean posttest score for non-clothing project members was 9.4 points which gave them a mean increase of 2.0 points compared to 1.8 points for the clothing project members. This increase was significant at the .05 level. Non-clothing project members had 50.0 percent of the answers correct in Section III on the pretest and 62.7 percent correct on the posttest which gave them a higher percent of increase in scores between the pretest and the posttest than clothing project members (12.7 vs. 12.0 percent respectively).

Comparison of Mean Pretest and Posttest Clothing Knowledge Scores on Recommended Methods of Construction

Comparisons of mean pretest and posttest scores of knowledge of sewing equipment and the change in scores and the percentages of these scores were made for all respondents, and for clothing project members and non-clothing project members separately.

All respondents. All respondents had an increase in mean scores from the pretest to the posttest (10.3 points to 10.6 points). This was an increase of 0.3 points. This was considered to be a significant increase in scores. All respondents had 68.7 percent of the answers correct on the pretest compared to 70.7 percent of the answers correct on the posttest. This was an increase of 2.1 percent.

Clothing project members. When considered separately, the clothing project members had the same scores for the pretest of knowledge of recommended methods as did the total group (10.3 points). However, their posttest score was slightly higher (10.7). This was an increase of 0.4 points which was significant at the .05 level of probability. Clothing project members had 68.7 percent of the answers correct on the posttest compared to 71.3 percent on the posttest (2.6 percent increase).

Non-clothing project members. Non-clothing project members had the same mean pretest score of recommended methods knowledge as did clothing project members (10.3 points). Their posttest score was slightly lower than clothing project members (10.5 vs. 10.7 respectively).

Non-clothing project members had an increase of 0.2 points which was not significant at the .05 level. This group had 68.7 percent of the answers correct on the pretest and 70.0 percent correct on the posttest for an increase of 1.3 percent.

Comparison of Mean Pretest and Posttest Clothing Knowledge Scores on Sewing Terms, Fabrics, and Methods

Comparisons of mean pretest and posttest scores of knowledge of sewing terms, fabrics and methods and the change in scores and the percentages of these scores were made for all respondents, and for clothing project members and non-clothing project members separately.

All respondents. The mean pretest score in Section V of the clothing knowledge test for all respondents was 8.3 points. The mean posttest score of all respondents for this section of the test was 9.4. The increase of 1.1 points was significant at the .05 level of probability. All respondents had 37.7 percent of the answers correct in this section of the test on the pretest and 42.7 percent correct on the posttest.

Clothing project members. In Section V the clothing project members had the same scores for the pretest and posttest as did the total group of all respondents. The increase from 8.3 points on the pretest to 9.4 points on the posttest (1.1 points) was significant at the .05 level. Clothing project members had 37.7 percent of the answers correct on the pretest compared to 42.7 percent correct on the posttest for an increase of 5.0 percent.

Non-clothing project members. Non-clothing project members had a lower pretest score of knowledge of sewing terms, fabrics and methods than did clothing project members (7.6 vs. 8.3 respectively). The posttest scores were also lower for non-clothing project members than for members (9.0 vs. 7.6 points). However, the increase of 1.3 points between pretest and posttest was significant for non-clothing project members and was a greater increase than for the clothing project members (1.3 vs. 1.1 respectively). Non-clothing project members had 34.5 percent of the answers in Section V correct on the pretest, 40.9 percent correct on the posttest for an increase of 6.4 percent.

Comparison of Mean Pretest and Posttest Clothing Knowledge Scores on Parts of the Sewing Machine

Comparisons of mean pretest and posttest scores of knowledge of parts of the sewing machine and the change in scores and the percentages of these scores were made for all respondents and for clothing project members and non-clothing project members separately.

All respondents. The mean pretest score for all respondents in Section VI Parts of the Sewing Machine, was 12.5 points of a possible 22 points. The mean posttest score was 13.7 points, which showed a significant increase of 1.2 points between pretest and posttest. All respondents had 44.6 percent of the answers correct on the pretest and 48.9 percent correct on the posttest. This was a mean increase of 2.3 percent.

Clothing project members. The scores and percentages for clothing project members, when considered separately were identical to the total

group of all respondents. The mean posttest was significantly higher than the mean pretest score (13.7 vs. 12.5 points). Clothing project members showed an increase of 1.2 points between pretest and posttest scores. This group had 44.6 percent of the pretest answers correct and 48.9 percent of the posttest answers correct for an increase of 2.3 percent.

Non-clothing project members. In Section VI, Parts of the Sewing Machine, non-clothing project members had lower mean pretest scores than clothing project members (12.1 vs. 12.5 respectively) and also lower posttest scores than the members (12.9 vs. 13.7 respectively). The increase in scores between pretest and posttest was 0.8 points for non-clothing project members which was not found to be significant at the .05 level of probability when analyzed by the t test. This group had 43.2 percent of the answers correct in Section VI on the pretest and 46.1 percent correct on the posttest for an increase of 2.9 percent.

Comparison of Mean Pretest and Posttest Clothing Knowledge Scores on the Total Test

Comparisons of mean pretest and posttest scores of clothing knowledge for the total test and the percentages of these scores were made for all respondents and for clothing project members and non-clothing project members separately.

All respondents. All respondents had a mean pretest total score of 53.9 points out of a possible 113. The mean posttest score was 61.6 points, or an increase of 7.7 points. This was a significant

increase in clothing knowledge for all respondents between pretest and posttest scores. All respondents had 47.7 percent of the pretest answers correct and 54.5 percent of the posttest answers correct for an increase of 6.7 percent.

Clothing project members. Clothing project members had the identical scores when considered separately as did the total group for the mean pretest and posttest scores. The pretest score for this group for the total test score was 53.9 and the posttest score was 61.6, or an increase of 7.7 points. This change in scores for clothing project members was significant at the .05 level. The percentage of correct answers of the pretest was 47.7 and the percentage on the posttest was 54.5 for an increase of 6.7 percent

Non-clothing project members. The mean posttest score of non-clothing project members was 60.0 or 7.3 points higher than the pretest score of 52.7. This increase was significant at the .05 level. Nonmembers had 46.6 percent of the pretest answers correct and 53.1 percent of the posttest answers correct for an increase of 6.5 percent. Non-clothing project members had lower pretest and posttest scores than clothing project members and a lower percentage of increase in scores between pretest and posttest scores (52.7 vs. 53.9 for pretest and 60.0 vs. 61.6 for posttest and 6.5 percent vs. 6.7 percent for percent of increase).

Comparisons of Mean Pretest and Posttest Clothing Knowledge Scores by Clothing Project Members and Non-clothing Project Members

The lowest percentage of correct answers to the pretest was on the clothing vocabulary test (20.6 percent). The highest percentage of correct answers to the pretest was on the grooming section (78.7 percent).

The lowest percentage of correct answers on the posttest was also on clothing vocabulary and the highest was on grooming (30.0 and 87.3 percent respectively).

The lowest percentage of change in clothing knowledge between pretest and posttest scores was on recommended methods of construction (2.1 percent) followed closely by parts of the sewing machine (2.3 percent). The greatest percent of change in clothing knowledge was in Section III on sewing equipment (12.0 percent).

Little differences were noted in the respondents' strengths and weaknesses on the sections of the clothing knowledge test when clothing project members and non-clothing project members were compared separately.

Clothing project members had the greatest increase of knowledge in Section I on grooming, Section IV on recommended methods of construction, Section VI on parts of the sewing machine,and on the total test score. Non-clothing project members had a greater increase in knowledge in Section II on clothing vocabulary, Section III on sewing equipment, and in Section V on sewing terms, fabrics and methods than did clothing project members.

In summary, analysis of the comparison of mean pretest and posttest scores on clothing knowledge by fifth grade girls in McMinn County, Tennessee revealed the following:

1. All respondents had a significant increase in clothing knowledge scores between the pretest and posttest in all sections of the clothing knowledge test.

2. The greatest increase in knowledge was in Section III on sewing equipment.

3. The lowest increase in mean clothing knowledge scores for all respondents between pretest and posttest scores was in Section IV on recommended methods of construction.

4. When analyzed separately, clothing project members had a significant increase in all sections of the clothing knowledge test. Their greatest percent of increase was in Section III on sewing equipment and their lowest percent of increase was in Section IV on recommended methods of construction.

5. When analyzed separately, non-clothing project members had a significant increase in knowledge scores in all sections of the clothing knowledge test except for Section IV on recommended methods of construction and Section VI on parts of the sewing machine.

III. COMPARISON OF CLOTHING PROJECT MEMBERS WITH NON-CLOTHING PROJECT MEMBERS AS TO CLOTHING KNOWLEDGE PRETEST AND POSTTEST SCORES

Table 2 compares clothing project members with non-clothing project members as to clothing knowledge pretest and posttest scores for each of the test sections and for the total test score. Mean scores are

Table 2

Comparison of Clothing Project Members with Non-clothing Project Members as to Clothing Knowledge Pretest and Posttest Scores

Clothing Knowledge Test Variables	Mean Pretest Scores		Diff. in Mean Scores	t Value & Sig. Level	Mean Posttest Scores		Diff. in Mean Scores	t Value and Sig. Level
	Members n=87	Non-Members n=97			Members n=87	Non-Members n=97		
Section I. Grooming	11.86	11.79	0.07	0.25 .81	13.36	12.92	0.44	1.95 .05
Section II. Clothing Vocabulary	3.78	3.59	0.19	0.36 0.72	5.28	5.43	0.15	0.25 0.80
Section III. Sewing Equipment	7.94	7.46	0.48	1.08 0.28	9.61	9.43	0.17	0.39 0.70
Section IV. Recommended Methods of Construction	10.24	10.30	0.06	0.22 0.83	10.91	10.45	0.46	1.55 0.12
Section V. Sewing Terms, Methods and Fabrics	8.94	7.65	1.29	1.88 0.06	9.84	8.99	0.85	1.08 0.28
Section VI. Parts of the Sewing Machine	12.99	12.08	0.91	1.35 0.18	14.51	12.90	1.71	2.10 0.04
Total Test Score	55.20	52.67	2.53	1.60 0.11	63.36	60.01	3.34	1.68 0.10

given for each group, the differences in scores, the t value and the significance level. Those variables achieving the .05 level of probability were considered significantly related.

Comparison of the Clothing Knowledge Scores on Grooming for Clothing Project Members and Non-clothing Project Members

The mean pretest and posttest scores in Section I on grooming of the clothing knowledge test were compared for members and nonmembers of the clothing project. The differences in the scores were noted and analyzed by the t test. Those achieving the .05 level of probability were considered significant.

Mean pretest scores. Clothing project members scored higher on the pretest in Section I of the clothing knowledge test than did the non-clothing project members (11.86 vs. 11.79). The mean difference in pretest scores was .07 points which was not significant.

Mean posttest scores. Clothing project members scored higher on the posttest in Section I than did nonmembers (13.36 vs. 12.92 points). The mean difference of .44 points was significant at the .05 level.

Comparison of the Clothing Knowledge Scores on Clothing Vocabulary for Clothing Project Members and Non-clothing Project Members

The mean pretest and posttest scores on clothing vocabulary were compared for clothing project members and non-clothing project members. The differences in scores were analyzed for significance.

Mean pretest scores. Clothing project members scored higher on the pretest in Section II of the clothing knowledge test than did

non-clothing project members (3.78 vs. 3.59 points). The difference in scores was .19 points. However, the difference in pretest knowledge of clothing vocabulary was not significant.

Mean posttest scores. Clothing project members scored slightly lower on the posttest in Section II than did non-clothing project members (5.28 vs. 5.43 points). However, the difference of .15 points was not significant at the .05 level.

Comparison of the Clothing Knowledge Scores on Sewing Equipment for Clothing Project Members and Non-Clothing Project Members

The mean pretest and posttest scores on Section III, sewing equipment, were compared for clothing project members and non-clothing project members. The differences in scores were analyzed for significance.

Mean pretest scores. Clothing project members had slightly higher mean pretest scores on sewing equipment than did nonmembers of the clothing project (7.94 vs. 7.46 points). However, this difference in knowledge was not considered significant.

Mean posttest scores. Clothing project members had a higher posttest score on sewing equipment than did nonmembers (9.61 vs. 9.43 points). However, this difference of .17 points was not considered significant.

Comparison of Test Scores on Recommended Methods of Construction for Clothing Project Members and Non-clothing Project Members

The mean pretest and posttest scores on Section III, recommended methods of construction, were compared for clothing project members and

non-clothing project members. The differences in scores were analyzed for significance.

Mean pretest scores. Clothing project members had slightly lower pretest scores on recommended methods of construction than did non-clothing project members (10.24 vs. 10.30 points). However, this difference of .06 points was not significant.

Mean posttest scores. Clothing project members had a greater increase in knowledge of recommended methods of construction from pretest to posttest than did non-clothing project members (10.91 vs. 10.45 points). However, this difference of .46 points was not significant.

Comparison of Test Scores on Sewing Terms, Methods and Fabrics for Clothing Project Members and Non-clothing Project Members

The mean pretest and posttest scores on sewing terms, methods and fabrics were compared for clothing project members and non-clothing project members. The differences in scores were analyzed for significance.

Mean pretest scores. Clothing project members had a higher pretest score on clothing terms, methods and fabrics than did non-clothing project members (8.94 vs. 7.65 points). However, the difference of 1.29 points was not significant at the .05 level.

Mean posttest score. Clothing project members also had a higher posttest score on clothing terms, methods and fabrics than non-clothing project members (9.84 vs. 8.99 points). However, this difference of .85 points was not significant.

Comparison of Test Scores on Parts of the Sewing Machine for Clothing Project Members and Non-clothing Project Members

The mean pretest and posttest scores on parts of the sewing machine were compared for clothing project members and non-clothing project members. The differences in scores were analyzed for significance.

Mean pretest scores. Clothing project members had a higher mean pretest score on knowledge of the parts of the sewing machine than did non-clothing project members (12.99 vs. 12.08 points); however, this difference of .19 points was not significant.

Mean posttest scores. Clothing project members had a higher posttest score on parts of the sewing machine than did non-clothing project members (14.51 vs. 12.90 points). However, this difference of 1.71 points was significant.

Comparison of Total Test Score on Clothing Knowledge for Clothing Project Members and Non-clothing Project Members

Mean pretest score. Clothing project members had a higher mean pretest total score on clothing knowledge than nonmembers of the clothing project (55.20 vs. 52.67 points). This difference of 2.53 points was not significant, however, at the .05 level for beginning clothing knowledge of fifth graders.

Mean posttest scores. Clothing project members had a higher total posttest score than non-clothing project members (63.36 vs. 60.01 points). However, this difference of 3.34 points for the total test was not significant at the .05 level.

In summary, analysis of clothing project members with non-clothing project members as to clothing knowledge pretest and posttest scores revealed the following information:

1. Clothing project members had significantly higher posttest scores on clothing knowledge than non-clothing project members on grooming and parts of the sewing machine.

2. Clothing project members had higher pretest scores on grooming, clothing vocabulary, sewing equipment, sewing terms, methods, and fabrics, parts of the sewing machine and the total test score than did non-clothing project members, but these differences were not significant at the .05 level.

3. Non-clothing project members had higher pretest scores on recommended methods than clothing project members but this difference was not significant.

4. Clothing project members had a higher mean posttest score than non-clothing project members on sewing equipment, recommended methods of construction, and the total test score. However, these differences were not significant at the .05 level.

5. Non-clothing project members had higher posttest scores than clothing project members on clothing vocabulary; however, this difference was not significant at the .05 level.

IV. RELATION OF SELECTED BACKGROUND VARIABLES TO THE CLOTHING KNOWLEDGE PRETEST AND POSTTEST MEAN SCORES OF ALL RESPONDENTS, CLOTHING PROJECT MEMBERS AND NON-CLOTHING PROJECT MEMBERS

The relation of selected background variables to the clothing knowledge pretest and posttest mean scores of all respondents, clothing

project members and non-clothing project members were analyzed to determine their significance. Analysis of variance procedures were used and those variables achieving the .05 level of probability according to the "F" test were considered as being significant.

Relation of Place of Residence to Clothing Knowledge Pretest and Posttest Scores

Mean pretest and posttest scores on the knowledge of clothing project members, non-clothing project members and for all respondents are shown on Table 3 by their place of residence. Sixty-seven percent of all respondents lived either on a farm (24 percent) or in rural nonfarm areas (43 percent). However, a higher proportion of the clothing project members (21 percent) than of the non-clothing project members (13 percent) lived in a town.

All respondents. Mean pretest clothing knowledge scores of all respondents were highest among farm residents and lowest among rural nonfarm and rural residents. These pretest scores of all respondents did not differ significantly as to place of residence when tested by the analysis of variance "F" test. Little difference in posttest scores of all the respondents was shown regarding their place of residence. Although those who lived in a town had the lowest and those who lived on a farm had the highest posttest scores, these differences were not significant at the .05 probability level when tested by the "F" test.

Among all respondents, the mean posttest score was greater than the mean pretest score for each place of residence classification. Those who lived in rural and in rural nonfarm areas made the most

Table 3

Relation of Selected Background Variables to the Mean Pretest and Mean Posttest Scores on Clothing Knowledge by All Respondents, Clothing Project Members and Non-clothing Project Members

Selected Background Variables	All Respondents					Clothing Project Members					Non-Clothing Project Members				
	N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores
Place of Residence			F=2.2	F=0.7				F=4.5*	F=1.9				F=1.5	F=0.0	
farm	44	24	57.0	62.6	5.6	18	21	58.9	65.8	6.9	26	27	55.8	60.3	4.5
town	30	16	55.3	58.5	3.2	18	21	58.2	57.1	-1.1	12	13	50.8	60.7	9.9
rural, nonfarm	79	43	52.7	62.4	9.7	39	45	54.7	65.0	10.3	40	42	50.8	60.0	9.2
rural settlement	30	16	51.7	61.8	10.1	12	14	46.8	63.7	16.9	18	19	55.0	60.5	5.5
Total	183	99	54.0	61.7	7.3	87	101	55.2	63.4	8.2	96	101	52.9	60.2	7.3
Level of Family Income			F=0.8	F=0.4				F=1.3	F=1.2				F=2.4	F=0.1	
less than $3000	11	6	55.4	59.3	3.9	6	7	51.3	56.3	5.0	5	5	60.2	62.8	2.6
between $3000-$5000	15	8	50.9	58.9	8.0	9	10	51.4	58.7	7.3	6	6	50.0	59.2	9.2
over $5000	94	52	54.8	61.8	7.0	46	53	54.9	64.2	9.3	48	51	54.8	59.5	4.7
don't know	62	34	53.2	62.6	9.4	26	30	57.9	65.0	7.1	36	38	49.9	60.8	10.9
total	182	100	54.0	61.7	7.7	87	100	55.2	63.4	8.2	95	100	52.9	60.2	7.3

Table 3 (continued)

Selected Background Variables	All Respondents N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	Clothing Project Members N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	Non-Clothing Project Members N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores
Employment Status of Mother			F=1.1	F=0.0				F=0.5	F=2.3				F=2.8	F=1.1	
employed	82	46	54.7	61.7	7.0	47	55	54.4	61.6	7.2	35	38	54.9	61.7	6.8
not employed	97	54	53.0	61.5	8.5	39	45	56.0	65.8	9.8	58	62	50.9	58.5	7.6
total	179	100	53.7	61.6	7.9	86	100	55.2	63.5	8.3	93	100	52.5	59.7	7.2
Membership Status of Mother in Clubs and Organizations			F=9.6*	F=12.4*				F=3.6	F=3.5				F=5.4*	F=8.4*	
member	39	22	58.6	67.9	9.3	23	27	58.6	67.9	9.3	16	18	58.7	67.9	9.2
non-member	135	78	52.7	59.6	6.9	61	73	53.8	62.0	8.2	74	82	51.8	57.7	5.9
total	174	100	54.1	61.5	7.4	84	100	55.1	63.6	8.5	90	100	53.0	59.5	6.5
Employment of Father			F=3.2*	F=3.1*				F=1.5	F=1.5				F=1.1	F=2.0	
not employed	15	9	46.9	53.7	6.8	5	6	48.0	56.0	8.0	10	11	46.4	52.6	6.2
farmer	6	4	57.8	63.5	5.7	2	2	60.5	56.0	-4.5	4	4	56.5	67.3	10.8
industry	73	43	55.8	65.2	9.4	34	43	57.4	67.9	10.5	39	43	54.5	62.8	8.3
business	52	30	54.5	61.4	6.9	28	35	54.5	63.8	9.3	24	26	54.5	58.7	4.2
professional	6	4	59.0	63.0	4.0	4	5	60.8	60.8	0.0	2	2	55.5	67.5	12.0
laborer	19	11	50.9	55.6	4.7	7	9	50.0	58.2	8.2	12	13	51.5	54.1	2.6
total	171	101	54.2	61.8	7.6	80	100	55.4	64.2	8.8	91	99	53.3	59.7	6.4

Table 3 (continued)

Selected Background Variables	All Respondents N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	Clothing Project Members N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	Non-Clothing Project Members N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores
Sewing Activity of Mother			F=3.4	F=0.5				F=1.7	F=0.2				F=2.0	F=0.3	
did sew	142	78	54.6	61.8	7.2	67	77	56.0	63.7	7.7	75	79	53.4	60.1	6.7
did not sew	40	22	51.0	60.2	9.6	20	23	52.6	62.2	9.6	20	21	49.5	58.2	8.7
Availability of Sewing Machine			F=12.5*	F=1.1				F=6.2*	F=2.8				F=5.2*	F=0.2	
Machine available	97	54	56.7	63.1	6.4	55	64	57.2	65.2	8.0	42	45	56.1	60.3	4.2
Machine not available	82	46	51.3	61.0	9.7	31	36	51.5	60.4	8.9	51	55	51.2	61.4	10.2
Total	179	100	54.2	62.1	7.9	86	100	55.1	63.5	8.4	93	100	53.4	60.9	7.5

N - Number of respondents

*p < .05

improvement while those living in a town and those living on a farm made the least improvement in clothing knowledge. Significance of differences between pretest and posttest scores were not computed for each of the place of residence classifications.

Clothing project members. Mean pretest clothing knowledge scores among clothing project members were lowest among those who lived in rural and rural nonfarm areas and the highest among those who lived on the farm and in a town. The analysis of variance "F" test showed that clothing project members' pretest clothing knowledge scores differed significantly as to their place of residence.

Mean posttest clothing knowledge scores among clothing project members were lowest for those who lived in a town. Little difference in mean posttest scores was found among clothing project members who lived on a farm, in rural nonfarm and rural areas. Clothing knowledge posttest scores did not differ significantly regarding the clothing project members' place of residence.

The difference in mean clothing knowledge scores between pretest and posttest for all clothing project members was 8.2 points (i.e., from a mean score of 52.5 to 63.4 points). Clothing project members who lived in a rural and in rural nonfarm areas had the largest increase in knowledge score. Those members who lived in town had a decrease of 1.1 points in clothing knowledge between pretest and posttest.

Non-clothing project members. The non-clothing project members had a lower mean pretest clothing knowledge score than did clothing project members (i.e., 52.9 vs. 55.2 respectively). Non-clothing project members

who lived on a farm and those who lived in a rural area had the highest mean pretest clothing knowledge score. Pretest scores of non-clothing project members did not differ significantly as to their places of residence.

Very little difference was found in the posttest clothing knowledge scores among non-clothing project members regarding their place of residence. The differences in mean clothing knowledge scores between pre- and posttest for all non-clothing project members was 7.3 points (i.e., change from a mean score of 52.9 to 60.2 points). Each of the non-clothing project members place of residence classifications had an increase in clothing knowledge test score between pretest and posttest. Significance of these differences between pretest and posttest for each of the place of residence classes were not computed.

In summary, analysis of the pretest and posttest clothing knowledge scores among clothing project members and non-clothing project members as to their place of residence revealed the following:

1. Although the respondents tended to live primarily in rural nonfarm areas and on farms, a higher proportion of those who lived in a town were enrolled in the clothing project (i.e., 18 of 30 or 60 percent).

2. There was a significant relationship ($p < .05$) between the pretest clothing knowledge score and place of residence among the clothing project members. Clothing project members who lived in rural areas had the lowest pretest clothing knowledge score.

3. Place of residence was not significantly related to: (a) clothing project members posttest clothing knowledge score; (b) non-clothing project members pretest or posttest clothing knowledge score.

4. Clothing project members had a higher pretest and a higher posttest clothing knowledge score than did non-clothing project members.

5. The overall increase in clothing knowledge score between pretest and posttest was greater among the clothing project members than among non-clothing project members. Clothing project members who lived in rural areas had the greatest increase from pretest to posttest, in clothing knowledge score while those who lived in a town had a slight decrease in clothing knowledge score.

Relation of Level of Family Income to Clothing Knowledge Pretest and Posttest Mean Scores

All respondents. Mean pretest and posttest knowledge scores of clothing project members, non-clothing project members and for all respondents are shown in Table 3, p. 42, by their level of family income. Fifty-two percent of all respondents had a family income of over $5,000 annually. Thirty-four percent of all respondents did not know their family income level. Fourteen percent of all respondents stated that the family income was less than $5,000 annually. Little difference was noted between pretest mean scores regarding the level of family income. These pretest scores did not differ significantly as to the level of family income when tested by the analysis of variance "F" test. Little differences in posttest scores of all the respondents were shown regarding the level of family income. Although

those who were not aware of their family income level had the highest and those whose family income level was between $3,000 and $5,000 had the lowest posttest scores, these differences were not significant at the .05 probability level when tested by the "F" test.

Among all respondents mean posttest scores were greater than the mean pretest score for each level of family income classification. Those who did not know their level of family income made the most improvement and those whose family income level was under $3,000 made the least improvement. Significant differences in pretest and posttest scores were not computed for each of the family income levels.

Clothing project members. Mean pretest clothing knowledge scores among clothing project members were lowest among those whose family income was under $3,000 and highest among those who did not know their level of family income. The analysis of variance "F" test showed that clothing project members' pretest scores did not differ significantly as to level of family income when tested by the analysis of variance "F" test.

Mean posttest scores among clothing members were lowest among those whose family income was under $3,000 annually and highest among those who were not aware of their family income level. Clothing knowledge posttest scores did not differ significantly regarding the level of family income.

The difference in mean clothing knowledge scores between pretest and posttest showed an increase for each level of family income class. Clothing project members whose family income level was over $5,000

annually had the largest increase in score (i.e., 9.3 points) while those with family incomes under $3,000 had the least increase in score (i.e., 5.0 points). The significance of these differences in increase in scores was not computed by level of family income.

Non-clothing project members. The non-clothing project members had a lower mean pretest clothing knowledge score than did clothing project members. Non-clothing project members whose family income level was less than $3,000 annually had the highest mean pretest score and those who did not know their family income level had the lowest mean clothing knowledge pretest score. Pretest scores of non-clothing project members did not differ significantly as to their level of family income.

Very little difference was found in the posttest clothing knowledge scores among non-clothing project members regarding their level of family income. Each income class among the non-clothing project members increased their clothing knowledge test scores between pretest and post-test. Those who did not know their family income level had the highest increase (i.e., 10.9 points) while those whose family income level was under $3,000 had the lowest increase (i.e., 2.6 points). Significance of these differences were not computed for each of the family income levels.

In summary, analysis of the influence of level of family income upon scores among clothing project members and non-clothing project members revealed the following:

1. The largest proportion of the respondents had a level of family income over $5,000 annually; however, 34.1 percent of the respondents were unaware of their level of family income. Little difference was

noted in the family income levels between clothing project members and non-clothing project members.

2. The level of family income was not significantly related to mean pretest or to posttest clothing knowledge scores of clothing project members or non-clothing project members.

3. Clothing project members whose level of family income was over $5,000 and those who did not know their family income level had the highest pretest scores and posttest scores. Conversely, among the non-clothing project members those in the lowest income class made the highest pretest and the highest posttest scores on clothing knowledge.

4. The highest increase between pretest and posttest scores among all respondents was in the group of respondents who did not know their level of family income.

Relation of Employment Status of Mother to Clothing Knowledge Pretest and Posttest Scores

Mean pretest and posttest scores on the knowledge of clothing for project members, non-clothing project members and for all respondents are shown on Table 3, p. 42, by the employment status of their mothers. Forty-six percent of the mothers of all respondents were employed, and 54 percent were not employed. Fifty-five percent of clothing project members' mothers were employed compared to 35 percent on the mothers of non-clothing project members.

All respondents. Mean pretest and posttest clothing knowledge scores of all respondents were higher for respondents whose mothers were employed. These pretest or the posttest scores of all respondents

did not differ significantly, however, as to the employment status of the mother when tested by the analysis of variance "F" test.

Among all respondents, the mean posttest scores were greater than the mean pretest scores for both respondents whose mothers were employed and those whose mothers were not employed. Although those respondents whose mothers were not employed made the most improvement, respondents whose mothers were employed made only 1.5 points less improvement. Significance of the differences in pretest and posttest scores for each class were not computed for the employment status of the mother.

Clothing project members. Mean pretest and posttest clothing knowledge scores among clothing project members were lowest among those whose mothers were employed. However, these differences in pretest scores or posttest scores as to mothers' employment status were not significant at the .05 level.

Respondents whose mothers were not employed had the most improvement for all clothing project members was 8.3 points. The significance of the improvement scores for each employment status class was not computed.

Non-clothing project members. The non-clothing project members had a lower mean pretest clothing knowledge score than did clothing project members (i.e., 52.5 vs. 55.2 respectively). Non-clothing project members whose mothers were employed had the highest mean pretest and posttest clothing knowledge scores. These pretest or posttest knowledge scores did not differ significantly, however, as to the employment status of the mothers of non-clothing project members.

Non-clothing project members whose mothers were not employed made the most improvement in clothing knowledge between pretest and posttest scores (i.e., 7.6 points). The difference in mean clothing knowledge scores between pretest and posttest for all non-clothing project members was 7.2 points. Significance of these differences was not computed.

In summary, analysis of the pretest and posttest clothing knowledge scores among all respondents, clothing project members and non-clothing project members as to the employment status of their mothers revealed the following:

1. Over half of the mothers of all respondents were not employed.

2. The employment status of the mother was found not to be a significant factor in relation to the mean pretest or posttest scores of clothing project members, non-clothing project members or among all respondents.

3. Clothing project members and non-clothing project members whose mothers were not employed made more improvement in clothing knowledge between pretests and posttests than respondents whose mothers were employed.

4. Posttest clothing knowledge scores were higher than pretest scores among all respondents, clothing project members and non-clothing project members for each class of the mother's employment status.

Relation of Membership Status of Mother in Clubs and Organizations to Clothing Knowledge Pretest and Posttest Scores

Mean pretest and posttest scores on the knowledge of clothing project members, non-clothing project members and for all respondents

are shown on Table 3, p. 42, by the membership status of the mother in clubs and organizations. Only 22 percent of all respondents reported that their mothers held membership in one or more clubs and organizations. Little difference in the percents were shown for clothing project members and non-clothing project members.

All respondents. Mean pretest clothing knowledge scores of all respondents were higher for those whose mothers were members of clubs and organizations. These pretest scores were significant when the analysis of variance "F" test was applied.

The mean posttest score was also significantly higher for those respondents whose mothers were members of clubs and organizations.

All respondents made improvement between the mean pretest and the mean posttest scores. Respondents whose mothers were members of clubs and organizations made the most improvement. Significance of these differences were not computed for the membership status of the mother in clubs and organizations.

Clothing project members. Mean pretest and posttest scores were higher for clothing project members whose mothers were members of clubs and organizations, but not significant at the .05 level of probability.

Respondents whose mothers were members of clubs and organizations made more improvement in scores between the pretest and posttest (i.e., 9.3 points) than those clothing project members whose mothers were not members of clubs and organizations (i.e., 8.2 points). These differences were not computed for significance.

Non-clothing members. Both the mean pretest and the mean posttest scores were significantly higher for non-clothing project members whose mothers were members of clubs and organizations. Little difference was noted between the pretest and posttest mean scores of non-clothing project members and clothing project members of the mothers who are members of clubs and organizations. However, it was noted that the posttest scores of non-clothing project members were lower than those of clothing project members whose mothers were not members of clubs and organizations.

Non-clothing project members made less improvement than clothing project members between the pretest and the posttest scores for those respondents whose mothers were members as well as those whose mothers were not members of clubs and organizations. Non-clothing project members did make improvements in scores between the pretest and the posttest (i.e., 6.5 points for all non-clothing project members).

In summary, analysis of the pretest and posttest clothing knowledge scores among clothing project members, non-clothing project members and all respondents as to their mothers' membership in clubs and organizations revealed the following:

1.Twenty-two percent of the respondents' mothers were members of one or more clubs and organizations.

2. There was a significant relationship ($p < .05$) of the membership status of the mother in clubs and organizations to the following: (a) mean pretest scores of all respondents, (b) mean posttest scores of all respondents, (c) mean pretest scores and mean posttest scores of non-clothing project members.

3. Respondents in all groups whose mothers were members of clubs and organizations made more improvement between the pretest and the posttest scores than did respondents whose mothers were not members of clubs and organizations.

Relation of Employment of Father to Clothing Knowledge Pretest and Posttest Scores

Mean pretest and posttest scores on the clothing knowledge of clothing project members, non-clothing project members and for all respondents are shown on Table 3, p. 42, by the employment of their fathers. Seventy-three percent of fathers of all respondents were employed either in industry (43 percent) or business (30 percent). Similar percents were true for clothing project members and non-clothing project members. Eleven percent of the fathers of all respondents were employed as laborers, 4 percent were farmers and 4 percent were in professional positions. Nine percent were unemployed. Similar proportions of percents were true for clothing project members and non-clothing project members.

All respondents. Mean pretest scores were highest among respondents whose fathers were professionals and farmers and lowest among respondents whose fathers were unemployed. Mean posttest scores for all respondents were highest for respondents whose fathers were employed in industry and lowest for those whose fathers were laborers or unemployed. These scores were significant at the .05 probability level when tested by the "F" test.

Among all respondents, the mean posttest scores were greater than the mean pretest scores for each classification of the fathers' employment.

Respondents whose fathers were in industry made the most improvement in clothing knowledge scores (9.4 points) and respondents whose fathers were in professional positions made the least improvement in scores (4.0 points). Significance of differences in pretest and posttest scores were not computed for each of the classifications of employment of the father.

Clothing project members. Mean pretest scores for clothing project members were highest among respondents whose fathers were employed in professional positions and farmers while respondents whose fathers were laborers or unemployed had the lowest pretest clothing knowledge scores. The analysis of variance "F" test showed that these scores did not differ significantly in regard to the employment of the father.

Mean posttest scores of clothing project members were highest for those respondents whose fathers were employed in industry, business and professional positions and lowest for respondents whose fathers were employed in farming, as laborers or not employed. These scores did not differ significantly, however, regarding the employment of the father.

The difference in mean clothing knowledge scores between pretest and posttest for all clothing project members was 8.8 (i.e., from a mean score of 55.4 to 64.2 points). Respondents whose fathers were employed in industry, in business, as laborers, and not employed made the most improvement in scores and those respondents whose fathers were employed in professional positions showed no improvement between scores. Clothing

project members whose fathers were employed in farming had a lower posttest score than pretest score (i.e., -4.5 points).

Non-clothing project members. The non-clothing project members had lower pretest and posttest mean scores in clothing knowledge than did clothing project members. Little differences were noted between differences in mean pretest scores among all classes of employment of the fathers except that respondents whose fathers were unemployed had a mean pretest score that was 6.9 points lower than the mean pretest score for all non-clothing project members.

Mean posttest scores were highest for non-clothing project members whose fathers were employed in farming or professional positions and lowest among respondents whose fathers were laborers or not employed.

The scores for the pretest and posttest of non-clothing project members were not significant in regard to the employment of the father.

The mean posttest score was higher than the mean pretest score for non-clothing project members in all classes of employment of the father. Respondents whose fathers were in professional positions made the most improvement in scores and non-clothing project members whose fathers were laborers were lowest in test score differences. Significance of these differences was not computed.

In summary, analysis of the pretest and posttest clothing knowledge scores among clothing project members and non-clothing project members as to the employment status of their fathers revealed the following:

1. The highest proportion of all respondents' fathers were employed in business or industry (i.e., 73 percent).

2. The employment of the father was significantly related to the mean pretest and posttest scores of all respondents. Respondents whose fathers were laborers and not employed had the lowest pretest and posttest scores.

3. The employment of the father was not significantly related to the mean pretest and posttest scores of clothing project members or non-clothing project members.

4. All respondents had a higher posttest score than pretest score except clothing project members whose fathers were in professional positions. Clothing project members whose fathers were employed in farming had a decrease between pretest and posttest scores.

Relation of Sewing Activity of Mother to Mean Pretest and Mean Posttest Scores

Mean pretest and posttest scores of the clothing knowledge of clothing project members, non-clothing project members and for all respondents are shown in Table 3, p. 42, by the sewing activity of the mother. Seventy-eight percent of all respondents indicated that their mothers did sew. Sixty-seven percent of clothing project members' mothers sew and 75 percent of non-clothing project members' mothers did sew.

All respondents. Mean pretest scores were highest among all respondents whose mothers sew. These scores were not significant at the .05 probability level when tested by the "F" test.

Among all respondents, mean posttest scores were higher among those whose mothers did sew. However, these scores were not significantly higher.

Among all respondents the mean posttest score was greater than the mean pretest score with respondents whose mothers did not sew making the greatest improvement in scores. These differences were not tested for significance.

Clothing project members. Mean pretest and posttest scores were higher for clothing project members whose mothers did sew, but these scores were not significantly higher when tested by the analysis of variance "F" test.

Mean posttest scores were higher than mean pretest scores for all clothing project members and clothing project members whose mothers did not sew made the most improvement in scores (9.6 points). These differences were not tested for significance.

Non-clothing project members. The non-clothing project members had lower mean pretest and posttest scores than did the clothing project members when analyzed by the sewing activity of the mother. Non-clothing members whose mothers did sew made the highest pretest and posttest scores. However, these scores were found not to be significant at the .05 level of probability.

The difference between mean pretest and mean posttest scores was greatest for non-clothing project members whose mothers did not sew (i.e., 8.7 points) when compared to non-clothing project members

whose mothers did sew (i.e., 6.7 points). However, these scores were not tested for significance.

In summary, analysis of the pretest and posttest clothing knowledge scores among clothing project members and non-clothing project members as to their mothers' sewing activity revealed the following:

1. The highest proportion of all respondents' mothers did sew. The same was true for clothing project members and non-clothing project members.

2. The sewing activity of the mother was not significantly related to the mean pretest or posttest scores of all respondents, clothing project members or non-clothing project members.

3. All respondents, clothing project members and non-clothing project members whose mothers did not sew made more improvement in scores between pretest and posttest scores than did the same respondents whose mothers did sew.

Relation of Availability of a Sewing Machine to Mean Pretest and Mean Posttest Scores of Clothing Knowledge of Fifth Grade Girls

Mean pretest and mean posttest scores in relation to the availability of a sewing machine are shown in Table 3, p. 42. Fifty-four percent of all respondents reported that they had a sewing machine in their homes. Sixty-four percent of clothing members had a sewing machine and 45 percent of non-clothing project members had a sewing machine.

All respondents. Mean pretest scores of all respondents were higher for those who had a sewing machine in their home than for those who did

not have a machine. These differences were found to be significantly different when tested by the analysis of variance "F" test.

Mean posttest scores of all respondents showed little difference in regard to the availability of a sewing machine. These differences were not significant at the .05 level of probability.

Those without a sewing machine available made more improvement between the pretest and posttest than those who did have a machine available (9.7 vs. 6.4 points respectively). These differences were not computed.

Clothing project members. Mean pretest scores of clothing project members differed significantly in regard to the availability of a sewing machine. Those with a sewing machine had higher scores than those who did not have a sewing machine. These scores were significant at the .05 probability level.

Mean posttest scores of clothing project members showed little difference in relation to the availability of a sewing machine. These differences were not significant at the .05 probability level.

Little difference was shown in the improvement of scores between pretest and posttest scores in regard to the availability of a sewing machine. Both groups showed an improvement of 8.4 points.

Non-clothing project members. Mean pretest scores were significantly higher for those non-clothing project members who had a sewing machine available than for those who did not have a machine available.

Mean posttest scores showed little difference in relation to those non-clothing project members who had a machine available than

those who did not have a machine available. These differences were not significant.

Those non-clothing project members who did not have a machine available made the highest improvement between the pretest and the posttest for all groups studied. This difference in improvement scores was not computed.

Non-clothing project group members without a sewing machine available made a higher mean posttest score than those clothing project group members with a sewing machine available.

In summary, analysis of clothing knowledge scores as to the availability of a sewing machine to respondents revealed the following facts:

1. Fifty-four percent of all respondents had a sewing machine available in the home.

2. The availability of a sewing machine was significantly related to the pretest scores of all respondents, clothing project members, and non-clothing project members.

3. The availability of a sewing machine was not significantly related to the mean posttest scores of all respondents, clothing project members or non-clothing project members.

4. Those respondents without a sewing machine available made more improvement in scores between the pretest and the posttest scores than those who did have a machine available.

V. RELATION OF SELECTED PERSONAL CHARACTERISTIC VARIABLES TO THE CLOTHING KNOWLEDGE PRETEST AND POSTTEST MEAN SCORES OF ALL RESPONDENTS, CLOTHING PROJECT MEMBERS AND NON-CLOTHING PROJECT MEMBERS

The relation of selected personal characteristic variables to the clothing knowledge pretest and posttest mean scores of all respondents, clothing project members and non-clothing project members will be discussed in this section. Table 4 gives the mean pretest and posttest scores and the change in scores by personal characteristic variables.

Relation of Age of Respondent to Clothing Knowledge Pretest and Posttest Mean Scores

Mean pretest and posttest scores on the clothing knowledge of clothing project members, non-clothing project members and all respondents are shown on Table 4 by their age. Seventy-eight percent of all respondents were 10 years old, 15 percent were 11 years old, 6 percent 12 years old, 1 percent 9 years old, and .05 percent 15 years old. Approximately the same percentage proportions were true for clothing project members, non-clothing project members except that there were no 15-year-olds in the clothing project group. However, a higher percentage of the clothing project members were 10 years (82 percent) than the non-clothing project members (72 percent).

All respondents. Mean pretest scores were higher for 9- and 10-year-olds for all respondents and lower for 11-, 12-, and 15-year-olds. These differences were significant when analyzed by the analysis of variance "F" test at the .05 probability level.

Table 4

Relation of Selected Personal Characteristic Variables to the Mean Pretest and Mean Posttest Scores on Clothing Knowledge by All Respondents, Clothing Project Members and Non-clothing Project Members

Selected Personal Characteristic Variables	All Respondents					Clothing Project Members					Non-Clothing Project Members				
	N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores
Age of Respondents			F= 8.7*	F=7.2*				F=5.7*	F=2.8				F=5.2*	F=4.9*	
nine-year-olds	2	1	61.5	57.0	-4.5	1	1	53.0	51.0	-2.0	1	1	70.0	63.0	-7.0
ten-year-olds	143	78	56.0	64.0	8.0	71	82	57.1	65.2	8.1	72	74	54.9	63.0	8.1
eleven-year-olds	27	15	46.3	55.7	9.4	11	13	44.6	57.0	12.4	16	16	47.4	54.6	7.2
twelve-year-olds	11	6	45.5	47.3	1.8	4	5	50.8	52.0	1.2	7	7	42.4	44.6	2.2
fifteen-year-olds	1	1	34.0	37.0	3.0						1	1	34.0	37.0	3.0
total	184	101	53.7	61.6	7.9	87	101	55.2	63.4	8.2	97	99	52.7	60.0	7.3
Grades Received in School			F=7.4*	F=12.1*				F=2.3	F=4.9*				F=5.0*	F=6.8*	
A's and B's	104	57	56.2	65.6	9.4	50	57	57.3	67.1	9.8	54	56	55.2	64.1	8.9
B's and C's	64	35	52.5	58.9	6.4	31	36	53.2	60.0	6.8	33	34	51.9	57.9	6.0
C's and D's	13	7	43.2	46.8	3.6	5	6	46.8	50.0	3.2	8	8	41.0	44.8	3.8
D's and F's	3	2	46.3	46.0	-0.3	1	1	53.0	48.0	-5.0	2	2	43.0	45.0	2.0
total	184	101	55.9	61.6	7.9	87	100	55.2	63.4	8.2	97	100	52.7	60.0	7.3

Table 4 (continued)

Selected Personal Characteristic Variables	All Respondents N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	Clothing Project Members N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores	Non-Clothing Project Members N	(%)	Mean Pre-test Score	Mean Post-test Score	Change in Scores
Participation in Extracurricular Activities			F=1.4	F=0.3				F=0.4	F=0.5				F=1.4	F=0.2	
one activity	83	57	52.8	62.2	9.4	46	61	54.1	63.1	9.0	37	53	51.2	61.1	9.9
two activities	42	29	54.8	63.0	8.2	20	27	55.2	65.9	10.7	22	31	54.5	60.4	5.9
three activities	17	12	57.9	64.6	6.7	8	11	57.3	65.1	7.8	9	13	58.6	64.8	6.2
four activities	3	2	57.3	58.3	10.0	1	1	62.0	52.0	-10.0	2	3	55.0	61.5	6.5
total	145	100	54.3	62.6	8.3	75	100	54.8	63.8	9.0	70	100	53.0	61.4	8.4
Prior Hand Sewing Experience			F=2.5	F=4.0*				F=1.4	F=0.0				F=6.9*	F=4.6*	
experienced	118	68	54.9	63.3	8.4	65	78	54.4	63.7	9.3	53	58	55.5	62.9	7.4
not experienced	56	32	52.1	60.0	7.9	18	22	57.7	63.7	6.0	38	42	49.5	56.7	7.2
total	174	100	54.0	62.0	8.0	83	100	55.1	63.7	8.6	91	100	53.0	60.3	7.3
Prior Machine Sewing Experience			F= 8.6*	F=6.6*				F=1.0	F=9.0*				F=8.6*	F=0.1	
experienced	65	37	57.1	65.3	8.2	39	47	56.4	68.0	11.6	26	29	58.2	61.4	3.2
not experienced	109	63	52.4	60.0	7.6	44	53	54.0	59.6	5.6	65	71	51.2	60.3	9.1
total	174	100	54.1	62.0	7.9	83	100	55.2	63.5	8.3	91	100	53.2	60.6	7.4

N Number of respondents

* $p < .05$

The mean posttest score was highest for 10-year-olds, followed by 9-year-olds and 11-year-olds. Twelve-year-olds and 15-year-olds had the lowest mean posttest score for all respondents. These differences were significant at the .05 probability level.

All age groups showed an increase in scores between the pretest and posttest scores, except for the nine-year-old group. They showed a decrease of -4.5 points. The 11-year-olds had the highest increase in scores (9.4 points) while the 12-year-olds had the lowest (1.8 points) except for the negative score of the nine-year-olds. However, these scores were not tested for significance.

Clothing project members. Mean pretest scores of clothing project members were significantly different in regard to the age of the member. Ten-year-olds had the highest pretest score and 12-year-olds had the lowest.

The mean posttest was highest for 10-year-olds and lowest for nine-year-olds. These differences did not prove to be significant.

Eleven-year-old clothing project members had the most increase between pretest and posttest scores (12.4 points) while nine-year-olds had a decrease in score differences (-2.0 points). Twelve-year-olds also showed a low increase in scores (1.2 points). These differences were not tested for significance.

Non-clothing project members. Mean pretest scores were highest for non-clothing project members in the nine-year-old age group and lowest in the 15-year-old age group (70.0 vs. 34.0 points respectively). These differences were significant at the .05 level of probability.

Nine-year-olds and 10-year-olds shared the same mean posttest score for non-clothing project members and the highest mean score. They were followed by 11-year-olds, 12-year-olds and 15-year-olds in that order. The difference in mean posttest scores ranged from 70.0 for non-clothing project members who were nine years old to 34.0 for the 15-year-old in the same group.

The 10-year-olds showed the greatest increase between pretest and posttest scores (8.1 points) and the nine-year-olds had a decrease in the difference of scores (-7.0 points). However, these differences were not computed for significance values.

In summary, analysis of the pretest and posttest clothing knowledge scores among all respondents, clothing project members and non-clothing project members as to their ages revealed the following facts:

1. There was a significant relationship between the pretest as well as the posttest mean scores and the ages of all respondents. The pretest mean score of clothing project members and the mean pretest and posttest score of non-clothing project members were also significantly related to the age of the respondent.

2. Girls in the nine- and ten-year-old age groups tended to make higher pretest and posttest scores than did the older girls in all groups except for the post test scores of clothing project members in which case, the 10-year-olds had the highest mean score, followed by 11-year-olds, 12-year-olds and nine-year-olds. However, the posttest scores of clothing project members were the only scores that were not significant in relation to the age of the respondent.

3. Nine-year-olds showed a decrease in knowledge scores between the pretest and the posttest score for all respondents, members in the 4-H clothing project and for those who were not clothing project members.

Relation of Grades Received in School to the Mean Pretest and Posttest Clothing Knowledge Scores

Mean pretest and posttest scores in relation to the grades most often received in school are shown on Table 4, p. 64. Fifty-seven percent of all respondents indicated that they received A's and B's most often in school. Thirty-five percent received B's and C's, 7 percent received C's and D's and 2 percent received D's and F's. The same percentage proportions were true for clothing project members and non-clothing project members.

All respondents. The mean pretest scores of all respondents were significant at the .05 level of probability in relation to the grades most frequently received in school. Respondents who had the highest mean test scores received the highest grades in school with a gradual decrease in mean pretest scores as the grades in school declined.

The mean posttest scores were also significant in relation to the grades received in school. Those respondents receiving the highest grades in school made the highest mean posttest score. The posttest scores gradually declined in direct relation to the decline of school grades.

The difference between mean pretest scores and mean posttest scores was highest for those receiving A's and B's in school. The differences

in scores from pretest to posttest gradually declined as the grades in school declined. Those receiving D's and F's most frequently in school showed a decrease in pretest and posttest mean scores of -.3 points. These differences were not computed for significance value.

Clothing project members. The mean pretest scores were not significant in relation to the grades most frequently received in school for clothing project members. Clothing project members who most often received A's and B's made the highest score and those receiving C's and D's had the lowest score.

The mean posttest scores for clothing project members was significant at the .05 level of probability. Those members receiving the highest grades in school also had the highest mean posttest score. There was a gradual decline in mean test scores as the grades in school declined. The scores ranged from 67.1 to 48.0 with a mean score for all clothing project members being 63.4.

The difference between mean pretest scores and mean posttest scores was greater for respondents receiving A's and B's in school and the lowest for those receiving D's and F's. These differences were computed for significance.

Non-clothing members. The mean pretest score for non-clothing project members was less than for clothing project members as was the mean posttest scores. The differences between non-clothing project members' mean scores were significant in relation to grades most frequently received in school. Those receiving the highest grades

in school also made the highest score on the pretest of clothing knowledge. Those receiving C's and D's received the lowest mean score on the pretest.

The mean posttest scores were also significantly different in regard to the grades most often received in school. Those receiving the highest grades in school made the highest score on the clothing knowledge posttest. The mean posttest scores gradually declined as the grades in school declined.

Non-clothing project members in all school grade classifications made higher posttest scores than pretest scores. Those receiving higher school grades made higher improvement test scores. These differences were not computed for significance value.

In summary, the analysis of the relation of the grades received in school to the mean pretest and posttest clothing knowledge scores of fifth grade girls gave the following information:

1. The grades received in school were significantly related to: (a) the mean pretest and posttest scores of all respondents, (b) the mean posttest scores of clothing project members and (c) the mean pretest and posttest scores of non-clothing project members.

2. A majority of the respondents most frequently received A's and B's in school (57 percent).

3. Those having higher school grades also received higher pretest and posttest scores for all respondents; higher posttest scores for clothing project members; and higher pretest and posttest scores for non-clothing project members. These scores were significant at the .05 probability level.

4. All respondents showed an increase between the pretest and posttest scores except for the respondents who received D's and F's in school. Those respondents had a decrease of -5.0 points from the pretest to the posttest.

Relation of Participation in Extracurricular Activities to Mean Pretest and Posttest Scores

Mean pretest and posttest scores in relation to participation in extracurricular activities are shown on Table 4, p. 64. Fifty-seven percent of all respondents participated in one activity, 29 percent in two activities, 12 percent in three activities, and 2 percent in four activities. The proportion of participation was approximately the same for clothing project members and non-clothing members.

All respondents. Little difference was noted in the mean pretest scores of all respondents in regard to the participation in extracurricular activities. Those respondents participating in one activity made the lowest score and those participating in three activities made the highest score. These scores were not found to be significantly relevant to participation in extracurricular activities.

Little difference was found in the posttest scores of all respondents in regard to the level of participation in extracurricular activities. Those participating in three activities made the highest mean posttest score of clothing knowledge and those participating in four activities made the lowest mean posttest score. The scores were not significant at the .05 level of probability.

All respondents made an increase in score between the pretest and the posttest. Those participating in four activities made the most improvement (10.0 points) and those making the least improvement participated in three activities (6.7 points). These differences in improvement scores were not computed for significance value.

Clothing project members. Little differences were noted in the pretest mean scores of clothing project members in relation to the level of participation in extracurricular activities. These differences were not significant at the .05 probability level.

Mean posttest scores of non-clothing project members were not significantly different in relation to participation in extracurricular activities.

Those respondents participating in two extracurricular activities made the highest improvement score from pretest to posttest (10.7 points). Those clothing project members participating in four activities had a decrease in the mean difference score from pretest to posttest (-10.0 points). These differences were not computed.

Non-clothing project members. The mean pretest and posttest scores of non-clothing project members were not significantly different in relation to their level of participation in extracurricular activities.

All levels of participation showed an increase in the posttest score over the pretest score. Those participating in one activity made the most improvement and those participating in two activities made the least improvement in scores.

In summary, the analysis of clothing knowledge scores as to participation in extracurricular activities revealed the following:

1. Eighty-six percent of all respondents participated in one or two extracurricular activities.

2. The level of participation in extracurricular activities was not significantly related to the mean pretest or posttest scores of all respondents, clothing project members or non-clothing project members.

3. All respondents had an improvement in scores between pretest and posttest except for clothing project members participating in four activities. They had a decline of -10.0 points.

Relation of Prior Hand Sewing Experience to Mean Pretest and Posttest Clothing Knowledge Scores by All Respondents, Clothing Project Members and Non-clothing Project Members

Mean pretest and posttest scores in relation to prior hand sewing experience are shown in Table 4, p. 64. Sixty-eight percent of all respondents had prior hand sewing experience. Seventy-eight percent of clothing project members had prior hand sewing experience and 53 percent of non-clothing project members had prior hand sewing experience.

All respondents. Little difference was noted in the mean pretest scores of respondents who had prior hand sewing experience. These differences were not significant at the .05 level of probability.

Mean posttest scores of all respondents were significantly different when related to prior hand sewing experience. Those who had prior experience made higher scores than those who had no prior experience.

Both classes of all respondents made higher scores on the posttest than on the pretest. Those with prior hand sewing experience made more improvement than those who had no prior experience (8.4 vs. 7.9 points). These differences were not computed.

Clothing project members. Little difference was found in the pretest or posttest scores of clothing project members in relation to prior hand sewing experience. These differences were not significant.

All clothing project members made improvement from the pretest to the posttest. Those with prior hand sewing experience made the most improvement (9.3 points) and those with no prior hand sewing experience made the least improvement in clothing knowledge improvement score (6.0 points). The significance of these differences was not computed.

Non-clothing project members. The mean pretest scores of non-clothing project members was significantly different in regard to prior hand sewing experience. Those with prior hand sewing experience made the highest scores.

The mean posttest score of non-clothing project members was shown to be significantly different by the analysis of variance "F" test in relation to prior hand sewing experience. Those with experience made higher mean scores than those without experience (62.9 vs. 56.7 points respectively).

Both groups of non-clothing project members made nearly the same improvement in scores from the pretest to the posttest. The mean improvement score was 7.3 points.

In summary, the analysis of the relation of prior hand sewing experience to the mean pretest and posttest scores of all respondents, clothing project members, and non-clothing project members revealed the following:

1. Sixty-eight percent of all respondents had prior hand sewing experience.

2. Prior hand sewing experience was found to be significant in relation to: (a) mean posttest scores of all respondents, (b) mean pretest and mean posttest scores of non-clothing project members.

3. Little difference was noted in the improvement scores between pretest and posttest scores in relation to prior hand sewing experience. The mean improvement score was 8.0 points.

Relation of Prior Machine Sewing Experience to Mean Pretest and Mean Posttest Scores on Clothing Knowledge

Mean pretest and mean posttest scores of all respondents, clothing project members and non-clothing project members in relation to prior machine sewing experience is shown on Table 4, p. 64. Sixty-three percent of all respondents did not have prior machine sewing experience, 53 percent of clothing project members did not have prior experience and 65 percent of non-clothing project members did not have prior sewing machine experience.

All respondents. Mean pretest and mean posttest scores were higher for all respondents who did have prior machine sewing experience than for those respondents who did not have prior machine sewing experience.

These differences were found to be significant by analysis of variance "F" test at the .05 level of probability.

All respondents made higher scores on the posttest than on the pretest of clothing knowledge. Those with prior machine sewing experience had the highest improvement score. These differences were not computed.

Clothing project members. Mean pretest scores of clothing project members who had prior machine sewing experience were higher than those who did not have prior experience; however, these differences were not found to be significant.

Mean posttest scores of clothing project members were higher for those with prior machine sewing experience than for those without prior experience. This difference was significant at the .05 level of probability.

Clothing project members who had prior sewing machine experience made more improvement between pretest and posttest scores than those who did not have prior machine sewing experience. These differences were not computed for significance.

Non-clothing project members. Mean pretest scores were higher for those non-clothing project members who had prior machine sewing experience than for those who did not have prior machine sewing experience. These differences were found to be significant at the .05 level of probability.

Mean posttest scores of non-clothing project members were not significant in relation to prior machine sewing experience.

Non-clothing project members without prior machine sewing experience made more improvement between pretest mean scores and posttest mean

scores than those who did have prior machine sewing experience (9.1 vs. 3.2 points). These differences were not computed.

Non-clothing project members had higher pretest scores than clothing members in relation to prior machine sewing experience, but when all non-clothing project members were compared with all clothing project members, those with prior machine sewing experience in the clothing project membership had the highest mean scores.

In summary, analysis of clothing knowledge scores as to prior machine sewing experience revealed the following facts:

1. Sixty-three percent of all respondents had had prior sewing machine experience. More non-clothing project members had prior experience than clothing project members (65 vs. 44 or 71 percent vs. 53 percent respectively).

2. Prior machine sewing experience was significant in relation to (a) pretest and posttest scores of all respondents, (b) posttest scores of clothing project members, and (c) pretest scores of non-clothing project members. Those with prior machine sewing experience had higher scores than those who did not have prior experience.

3. Prior machine sewing experience was not significant to (a) pretest scores of clothing project members or to (b) posttest scores of non-clothing project members.

4. Those with prior machine sewing experience in all groups had a higher difference in scores between the pretest and posttest than those who did not have prior machine sewing experience.

VI. RELATION OF SELECTED EDUCATIONAL EXPERIENCE VARIABLES COMMON TO CLOTHING PROJECT MEMBERS TO CLOTHING KNOWLEDGE PRETEST AND POSTTEST MEAN SCORES OF FIFTH GRADE GIRLS IN MCMINN COUNTY, TENNESSEE

The relation of selected educational experience variables common to clothing project members to clothing knowledge pretest and posttest mean scores of fifth grade girls in McMinn County, Tennessee, is shown on Table 5. The mean pretest and posttest scores are given as well as the change in scores. The variables included in this section are: availability of a project guide, use of the project guide, help received with project, completion of project record, participation in clothing demonstration, and participation in 4-H Dress Revue.

Relation of Availability of Clothing Project Guide to Mean Pretest and Posttest Scores of Clothing Project Members

The relation of the availability of a project guide to test scores is shown in Table 5. Ninety percent of the clothing project members received the 4-H Unit I CLothing Project Guide.

Little differences were noted in the mean pretest scores. Those who received the project guides made the highest scores, but this difference was not significant by the analysis of variance "F" test.

Mean posttest scores of those who received the project guide were the highest; however, these scores were not significant at the .05 level of probability.

All clothing project members made higher scores on the posttest than on the pretest. Those who did not respond to the availability of a project guide made the most improvement (10.0 points). Those who

Table 5

Relation of Selected Educational Experience Variables Common to Clothing Project Members Mean Pretest and Mean Posttest Scores of Clothing Knowledge of Fifth Grade Girls in McMinn County, Tennessee

Selected Educational Experience Variable	N	(%)	Mean Pretest Score	Mean Posttest Score	Change in Scores
Received Clothing Project Guide			F=0.1	F=0.2	
yes	78	90	55.3	63.7	8.4
no	8	9	54.2	60.5	6.3
no response	1	1	52.0	62.0	10.0
total	87	100	55.2	63.4	8.2
Use of Clothing Project Guide			F=0.7	F=0.0	
none of it	9	10	53.3	63.7	8.4
some of it	51	59	56.3	63.4	7.1
all of it	27	31	53.7	63.4	9.7
total	87	100	55.2	63.4	8.2
Help Received with Clothing Project			F=0.4	F=4.9*	
yes	71	82	54.9	64.8	8.9
no	16	18	56.6	57.0	0.4
total	87	100	55.2	63.4	8.2

Table 5 (continued)

Selected Educational Experience Variable	N	(%)	Mean Pretest Score	Mean Posttest Score	Change in Scores
Completed Project Record			F=2.2	F=0.4	
no response	1	1	56.0	75.0	19.0
none	12	14	59.4	65.3	5.9
some	13	15	49.3	61.5	12.2
all	61	70	55.6	63.2	7.6
total	87	100	55.2	63.4	8.2
Participated in Clothing Demonstration			F=0.9	F=0.7	
no response	3	3	60.3	67.7	7.4
yes	22	25	53.1	60.7	7.6
no	62	71	55.7	64.1	8.4
total	87	100	55.2	63.4	8.2
Entered 4-H Dress Revue			F=0.3	F=1.5	
no response	3	3	56.3	72.0	15.7
yes	16	18	54.8	66.8	12.0
no	68	78	55.3	62.2	6.9
total	87	99	55.2	63.4	8.2

N Number of respondents

* $p < .05$

indicated that they did receive the guide were lower (8.4 points). Those who did not receive the guide made the least improvement (6.3 points).

In summary, analysis of clothing knowledge scores as to availability of clothing project guide revealed the following facts:

1. Ninety percent of clothing project members received the 4-H clothing project guide.

2. Mean pretest and posttest clothing knowledge scores were not significant in relation to the availability of a project guide.

3. Clothing project members receiving a guide made the most improvement between pretest and posttest scores.

Relation of the Use of the 4-H Clothing Project Guide to Mean Pretest and Posttest Scores of Clothing Project Members

The relation of use of the project guide to test scores is shown on Table 5. Fifty-nine percent of the clothing project members read some of the project guide, 31 percent read all of the project guide and 10 percent did not read any of it.

Little differences were noted in mean pretest scores in regard to the use of the 4-H clothing project guide. Those who read some of the guide made the highest scores and those who read none of it made the lowest. These differences were not significant at the .05 level of probability.

Little differences were noted in mean posttest scores in regard to the use of the 4-H clothing project guide. Those who read all of the guide and those who read some of it made the same score. Those who read none of the guide made a slightly lower score. These differences were not significant at the .05 level of probability.

All clothing project members made higher posttest scores than pretest scores. Those who read all of the project guide made the most improvement, the scores of those who did not read any of the guide were slightly lower and the scores of those who read some of the guide were lowest (9.7, 9.6, 7.1 respectively). These differences were not computed for significance.

In summary, analysis of clothing knowledge scores as to use of the project guide revealed the following facts:

1. Ninety percent of the clothing project members had read some or all of the 4-H Unit I Clothing Project Guide.

2. Mean pretest or posttest clothing knowledge scores were not significant in relation to the use of the project guide.

3. Clothing project members reading all of the project guide made only slightly higher improvement scores than those who read none of the guide.

Relation of Help Received with 4-H Clothing Project to Mean Pretest and Posttest Scores of Clothing Project Members

The relation of help received with clothing project to test scores is shown on Table 5, p. 79.

Eighty-two percent of the clothing project members received help with their clothing project.

Mean pretest scores of clothing project members who did not receive help with their project were higher than those who did receive help; however, these scores were not significant at the .05 level of probability.

Mean posttest scores of clothing project members who received help with their project were significantly higher than those who did not receive help with their projects.

All clothing project members made higher scores on the posttest than on the pretest. Those clothing project members who received help with their projects made higher improvement scores than those who did not receive help with their projects (8.9 vs. 0.4 points). These differences were not computed for significance value.

In summary, analysis of clothing knowledge scores as to help received by respondents on clothing revealed the following facts:

1. Eighty-two percent of the clothing project members received help with their clothing projects.

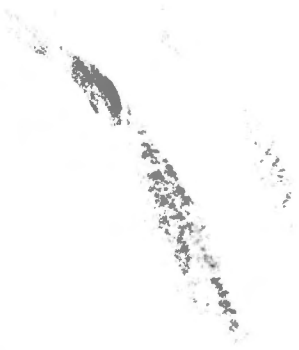
2. Mean pretest scores were not significant in regard to help received with the project.

3. Mean posttest scores were significantly influenced by help received with the 4-H clothing project.

4. Clothing project members receiving help with their project made higher improvement scores than those who did not receive help with the project.

Relation of Completion of the Clothing Project Record to Mean Pretest and Mean Posttest Scores of Clothing Knowledge of Clothing Project Members

The relation of project record completion is shown on Table 5, p. 79. Seventy percent of all clothing project members completed all of their clothing project record. Fifteen percent completed some of the record, 14 percent completed none of the record and 1 percent did not reply.



Relation of Giving a Clothing Demonstration to Mean Pretest and Mean Posttest Scores of Clothing Knowledge of Clothing Project Members

The relation of participation in a clothing demonstration to test scores is shown in Table 5, p. 79.

Twenty-five percent of the clothing project members had given a clothing demonstration.

Little difference was found in pretest scores in relation to giving a clothing demonstration. These differences were not significant at the .05 level of probability.

Mean posttest scores of those who had not given a clothing demonstration were higher than those who had given a demonstration. However, these differences were not significant at the .05 level of probability.

All clothing project members had higher posttest scores than pretest scores. Those who had not given a clothing demonstration made slightly more improvement than those who had given a demonstration. These differences were not computed for significance.

In summary, analysis of clothing knowledge scores as to respondents' participation in giving a clothing demonstration revealed the following facts:

1. Twenty-five percent of all clothing project members had given a clothing demonstration.

2. Mean pretest and mean posttest scores were not significantly related to giving a clothing demonstration.

3. Clothing project members who did not give a clothing demonstration made higher improvement scores than those who did give a demonstration.

Relation of Entering 4-H Dress Revue to Mean Pretest and Mean Posttest Scores of Clothing Knowledge of Clothing Project Members

The relation of entering the 4-H Dress Revue to test scores is shown in Table 5, p. 79.

Eighteen percent of all clothing project members entered 4-H Dress Revue.

Little difference was noted in the mean pretest and posttest scores, in relation to entering the 4-H Dress Revue.

Those who entered the dress revue made the lowest mean pretest score. Those who did not respond to the question made the highest scores. These differences were not significant at the .05 level of probability.

Those who did not respond to the question made the highest posttest score also. Those who entered the 4-H Dress Revue made the second highest posttest score and those who did not enter the dress revue made the lowest mean posttest score of clothing knowledge. These differences were not significant at the .05 level of probability.

Clothing project members who did not respond to the question made the most improvement between pretest and posttest scores (15.7 points). Those who entered the dress revue improved an average of 12.0 points and those who did not enter the 4-H Dress Revue made the least improvement (6.9 points). These differences were not computed.

In summary, analysis of clothing knowledge scores as to respondents' participation in a 4-H Dress Revue revealed the following facts:

1. Eighteen percent of all clothing project members entered a garment in the 4-H Dress Revue.

2. Mean pretest and mean posttest scores were not significantly related to entering the 4-H Dress Revue.

3. Clothing project members who did not respond to the question and those entering the dress revue made the most improvement between pretest and posttest scores.

CHAPTER IV

SUMMARY OF MAJOR FINDINGS, IMPLICATIONS AND RECOMMENDATIONS

I. INTRODUCTION

This study was undertaken to help extension workers and 4-H Leaders to develop a 4-H program which will better meet the needs of fifth grade girls enrolled in the clothing project.

It was felt that the identification of factors relating to the clothing knowledge of fifth grade girls would be helpful to extension workers in planning and conducting more effective 4-H programs for the junior 4-H audience and for the fifth grade clothing project members in particular.

II. PURPOSE AND SPECIFIC OBJECTIVES

Purpose

The purpose of the study was to learn the influence of the background, personal characteristics and educational experiences of fifth grade girls upon their clothing knowledge. It was felt that this information would enable extension agents to better understand the needs of future fifth grade girls and to adapt teaching methods to fit their abilities and needs.

Specific Objectives

The specific objectives of the study were to:

1. determine the clothing knowledge of fifth grade girls at the beginning of the school year (pretest),
2. determine the clothing knowledge of fifth grade girls at the end of the school year (posttest),
3. determine if there had been a significant increase in the clothing knowledge score between the beginning to the end of the school year, and
4. determine the factors that influenced the increase in clothing knowledge score.

III. METHOD OF INVESTIGATION

Population and Data

The population included 184 fifth grade girls enrolled in the McMinn County school system in 1973-1974. Data were secured using two questionnaries plus a test designed to measure clothing knowledge of participants. Instruments were developed by the author with the guidance of the Extension clothing specialists and the Extension Education Department at the University of Tennessee.

IV. MAJOR FINDINGS

The level of clothing knowledge among fifth grade girls was determined at the beginning of the 1973 school year (pretest) and again at the close of the year (posttest). Significance of differences

in the pretest and posttest scores were analyzed for all fifth grade girls, for 4-H clothing project members and for nonmembers. The factors that affected these changes were also tabled and divided into three major headings related to the objectives of the study: background variables, personal characteristics, and educational experiences of the respondents. Results of those findings follow.

Pretest versus Posttest Scores of Clothing Knowledge

1. All respondents had a significant increase in clothing knowledge scores between the pretest and posttest in all sections of the clothing knowledge test.

2. The greatest increase in knowledge was in Section III, Sewing Equipment.

3. The lowest increase in mean clothing knowledge scores for all respondents between pretest and posttest scores was in Section IV, Recommended Methods of Construction.

4. When analyzed separately, clothing project members had a significant increase in all sections of the clothing knowledge test. Their greatest percent of increase was in Section III, Sewing Equipment, and the lowest percent of increase in Section IV, Recommended Methods of Construction.

5. When analyzed separately, non-clothing project members had a significant increase in knowledge scores in all sections of the test except for Section IV, Recommended Methods of Construction and Section VI, Parts of the Sewing Machine.

Clothing Project Members versus Non-clothing Project Members as to Clothing Knowledge Pretest and Posttest Scores

1. Clothing project members had significantly higher posttest scores of clothing knowledge than non-clothing project members in Section I, Grooming and Section VI, Parts of the Sewing Machine.

2. Clothing project members had higher pretest scores of Section I, Grooming; Section II, Clothing Vocabulary; Section III, Sewing Equipment; Section V, Sewing Terms, Methods, and Fabrics; Section VI, Parts of the Sewing Machine and the total test score than did non-clothing project members, but these differences were not significant.

3. Non-clothing project members had higher pretest scores in Section IV, Recommended Methods of Construction, than clothing project members but this difference was not significant.

4. Clothing project members had a higher mean posttest score than non-clothing project members in Section III, Sewing Equipment; Section IV, Recommended Methods of Construction, and the total test score. However, these differences were not significant.

5. Non-clothing project members had higher posttest scores than clothing project members in Section II, Clothing Vocabulary; however, this difference was not significant.

Place of Residence:

1. Although the respondents tended to live primarily in rural nonfarm areas and on farms, a higher proportion of those who lived in

a town were enrolled in the clothing project (i.e., 18 of 30 or 60 percent).

2. There was a significant relationship between the pretest clothing knowledge score and place of residence among the clothing project members. Clothing project members who lived in rural areas had significantly lower pretest scores.

3. Place of residence was not significantly related to clothing project members' posttest clothing knowledge scores or to non-clothing project members' pretest or posttest clothing knowledge scores.

4. Clothing project members had a higher pretest and a higher posttest clothing knowledge score than did non-clothing project members.

5. The overall increase in clothing knowledge score between pretest and posttest was greater among the clothing project members than among non-clothing project members. Clothing project members who lived in rural areas had the greatest increase from pretest to posttest in clothing knowledge scores while those who lived in a town had a slight decrease in clothing knowledge scores.

Levels of Family Income

1. The largest proportion of the respondents' level of family income was over $5,000 annually; however, 34.1 percent of the respondents were unaware of their level of family income.

2. The level of family income was not significantly related to mean pretest or posttest clothing knowledge scores among clothing project members or non-clothing project members.

3. Clothing project members whose level of family income was over $5,000 and those who did not know their family income level had the highest pretest and posttest scores.

4. The highest increase between pretest scores and posttest clothing knowledge scores among all respondents was in the group of respondents who did not know their level of family income.

Employment Status of Mother

1. Over half of the mothers of all respondents were not employed.

2. The employment status of the mother was found not to be significant in relation to the mean pretest or posttest scores of clothing project members, non-clothing project members or among all respondents.

3. Clothing project members and non-clothing project members whose mothers were not employed made more improvement between pretest and posttest scores than did respondents whose mothers were employed.

Mothers' Membership in Clubs and Organizations

1. Twenty-two percent of the respondents' mothers were members of one or more clubs and organizations.

2. The mothers' membership in clubs and organizations was significantly related to each of the following: (a) pretest clothing knowledge scores of all respondents, (b) posttest clothing knowledge scores of all respondents, (c) pretest scores and posttest clothing knowledge scores of non-clothing project members.

3. Respondents in all groups whose mothers were members of clubs and organizations made more improvement between the pretest and the

posttest clothing knowledge scores than did respondents whose mothers were not members of clubs and organizations.

Employment of Father

1. The highest proportion of all respondents' fathers were employed in business or industry.

2. The employment of the father was significantly related to the pretest and the posttest clothing knowledge scores of all respondents. Respondents whose fathers were laborers and were not employed had the lowest pretest and posttest clothing knowledge scores.

3. The employment of the father was not significantly related to the pretest or the posttest scores of clothing project members or non-clothing project members.

4. All respondents had a higher posttest score than pretest score except clothing project members whose fathers were in professional positions. Clothing project members whose fathers were employed in farming had a decrease between pretest and posttest scores.

Mothers' Sewing Activity

1. The highest proportion of all respondents' mothers did sew. The same was true for clothing project members and non-clothing project members.

2. The sewing activity of the mother was not significantly related to the pretest or posttest score of all respondents, clothing project members or non-clothing project members.

3. All respondents, clothing project members and non-clothing project members whose mothers did not sew made more improvement in

scores between pretest and posttest scores than did the same respondents whose mothers did sew.

Availability of a Sewing Machine

1. Fifty-four percent of all respondents had a sewing machine available in the home.

2. The availability of a sewing machine was significantly related to the pretest clothing knowledge scores of all respondents, clothing project members and non-clothing project members. Those who had a sewing machine available to them made significantly higher clothing knowledge test scores.

3. The availability of a sewing machine was not significantly related to the mean posttest clothing knowledge scores of all respondents, clothing project members or non-clothing project members.

4. Those respondents without a sewing machine available made more improvement in clothing knowledge scores between the pretest and the posttest scores than those who did not have a machine available.

Age of Respondents

1. There was a significant relationship between the respondents' age and the pretest and the posttest scores of all respondents, the pretest scores of clothing project members and the pretest and posttest score of non-clothing project members.

2. Girls who were nine and 10 years old tended to make higher pretest and posttest scores than did the older girls in all groups except for the posttest scores of clothing project members in which

case, the 10-year-olds had the highest mean score followed by 11-year-olds, 12-year-olds and nine-year-olds. However, the posttest scores of clothing project members were the only scores that were not significantly related to the age of the respondent.

3. Nine-year-olds in each classification showed a decrease in clothing knowledge score between the pretest and posttest.

Grades in School

1. The grades received in school were significantly related to: (a) the mean pretest and posttest scores of all respondents, (b) the mean posttest scores of clothing project members and (c) the mean pretest and posttest scores of non-clothing project members.

2. A majority of the respondents most frequently received A's and B's in school (57 percent).

3. Those having higher school grades made significantly higher pretest and posttest scores for all respondents, significantly higher posttest scores for clothing project members, and significantly higher pretest and posttest scores for non-clothing project members.

4. All respondents showed and increase between the pretest and posttest scores except for the respondents who received D's and F's in school. Those respondents had a decrease of 5.0 points from the pretest to the posttest.

Extracurricular Activities

1. Eighty-six percent of all respondents participated in one or two extracurricular activities.

2. The level of participation in extracurricular activities was not significantly related to the mean pretest or posttest scores of all respondents, clothing project members or non-clothing project members.

3. All respondents had an improvement of scores between pretest and posttest except for clothing project members participating in four activities. They had a decline of 10 points.

Prior Hand Sewing Experience

1. Sixty-eight percent of all respondents had had prior hand sewing experience.

2. Prior hand sewing experience was significantly related to: (a) the posttest scores of all respondents, (b) the pretest and posttest scores of non-clothing project members.

3. Little difference was noted in the improvement in clothing knowledge scores of any group between pretest and posttest scores in relation to prior hand sewing experience. The mean improvement score was 8.0 points.

Prior Machine Sewing Experience

1. Sixty-three percent of all respondents had had prior sewing machine experience. More non-clothing project members had prior experience than clothing project members (65 vs. 44 or 71 percent vs. 53 percent respectively).

2. Prior machine sewing experience was significantly related to: (a) pretest and posttest scores of all respondents, (b) posttest scores

of clothing project members and (c) pretest scores of non-clothing project members. Those with prior machine sewing experience had significantly higher scores than those who did not have prior experience.

3. Prior machine sewing experience was not significantly related to: (a) pretest scores of clothing project members and (b) posttest scores of non-clothing project members.

4. Those with prior machine sewing experience in all groups had a higher difference in scores between the pretest and posttest than those who did not have prior machine sewing experience.

Availability of a 4-H Clothing Project Guide

1. Ninety percent of clothing project members received the 4-H clothing project guide.

2. Mean pretest or posttest clothing knowledge scores were not significantly related to the availability of a project guide.

3. Clothing project members receiving a guide made the most improvement between pretest and posttest scores.

Use of a 4-H Clothing Project Guide

1. Ninety percent of the clothing project members read some or all of the 4-H Unit I Clothing Project Guide.

2. Pretest and posttest clothing knowledge scores were not significantly related to use of the project guide.

3. Clothing project members reading all of the project guide made only slightly higher improvement scores than those who read none of the guide.

Help Received on 4-H Clothing Project

1. Eighty-two percent of the clothing project members received help with their clothing project.

2. Pretest scores were not significantly related to help received with the project.

3. Posttest clothing knowledge scores were significantly influenced by receiving help with the 4-H clothing project.

4. Clothing project members receiving help with their project made higher improvement scores on clothing knowledge than those who did not receive help with the project.

Completion of 4-H Clothing Project Record

1. Eighty-five percent of all clothing project members completed some or all of their 4-H clothing project record.

2. Neither the pretest nor the posttest clothing knowledge scores were significantly related to whether or not respondents had completed the 4-H clothing project record.

Giving a Demonstration on Clothing

1. Twenty-five percent of all clothing project members had given a clothing demonstration.

2. Neither the pretest nor the posttest clothing knowledge scores were significantly related to whether or not respondents had given a clothing demonstration.

3. Clothing project members who did not give a clothing demonstration made a higher improvement score than those who did give a demonstration.

Participation in a 4-H Dress Revue

1. Eighteen percent of all clothing project members entered a garment in the 4-H Dress Revue.

2. Neither the pretest nor the posttest clothing knowledge scores were significantly related to entering the 4-H Dress Revue.

3. Clothing project members who did not respond to the question and those entering the dress revue had the most improvement between pretest and posttest scores.

VI. IMPLICATIONS AND RECOMMENDATIONS

Based on the results of the study, the following implications and recommendations are made:

1. Findings of the study showed that all fifth grade girls increased their clothing knowledge at this stage of their development. Areas of clothing that appeal to all girls such as grooming, clothing selection and maintenance would be suitable topics for mass media, group demonstrations, workshops and special interest meetings.

2. Findings of the study showed that recommended methods of construction, clothing vocabulary, and parts of the sewing machine were the weakest areas of clothing knowledge. In-depth studies of these topics could be done in project group meetings, workshops, newsletters and special interest meetings for clothing project members.

3. Findings of the study indicate that respondents whose fathers are not employed or who are employed as laborers had a lower level of clothing knowledge than others. This seems to imply that lower income

girls need special attention in the clothing project. Perhaps low cost project ideas, at-home construction of some sewing equipment, cooperative use of sewing equipment and sponsorship of project materials and equipment are possibilities to more effectively reach this group.

4. Age was significantly related to the clothing knowledge of fifth grade girls. The older girls who are perhaps repeaters in the fifth grade or slow learners, need special help to gain the most from the clothing project. Special attention to simple, easy to follow instructions, extra help from agents, adult leaders and teen leaders would benefit this group.

5. The study showed that the girls who received higher grades in school gained more clothing knowledge than the girls who received lower grades. The project requirements should be flexible enough and the incentives interesting enough to present a challenge to the fast learners. Perhaps these fast learners could be used in leadership capacities with the slow learners.

6. The study showed that prior hand sewing experiences and machine sewing experiences contributed to the clothing knowledge of fifth grade girls. Making something is important! A simple article that can be completed easily could be made and exhibited early in the year. Parents should be made aware of the importance of giving assistance and encouragement and providing opportunities for their children to have experiences in sewing. Simple hand sewing projects for Explorer groups would aid in giving girls prior sewing experiences. Perhaps a workshop in using the machine, such as "Know Your Sewing Machine" should be the starting point for girls enrolling in the project.

7. The study indicated that the project guide has not been put to the most efficient use by the project members. Special help should be given at the beginning of the year in how to use the project guides. Project groups are not available to the majority of club members and they have little if any help in knowing how to begin their project, what is required of them and how to use the project guide. The project guide itself should be reviewed from the standpoint of a 10-year-old, fifth grade girl, who has had little experience in sewing, who will have trouble finding materials and equipment for her project, and who will probably have no one to give her assistance with her project.

8. The study showed that an increase in clothing knowledge was significantly influenced by the help received with the project. The most pressing need in planning a more effective 4-H clothing program is to devise a plan to get more personal assistance to the individual project members. Project group leaders need to be recruited, trained and put on the job. Teen leaders can help to give this assistance if they are properly trained and given tasks they can handle. Clothing newsletters could provide some personal assistance to the individual. Special interest meetings and workshops held on a community basis by leaders and/or agents can give more personal attention to the project member.

9. The study indicated that participation in dress revue and clothing demonstrations were not significant to clothing knowledge; however, this was probably due to the low percentage of project members involved in these activities. Well-planned dress revues, demonstrations

and special interest meetings that are fun to go to, appeal to the asthetic senses of the audience or meet a special need of these girls will attract more participants. All members should be given equal opportunity to attend workshops, project group meetings and to exhibit their work or compete for awards. Recognition should be planned to reach more individuals.

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APPENDIX

THE UNIVERSITY OF TENNESSEE
AGRICULTURAL EXTENSION EDUCATION
IN COOPERATION WITH MCMINN COUNTY SCHOOLS

SURVEY OF FIFTH GRADE GIRLS

We would like to find out what activities you take part in and what you are interested in learning and doing. Your answers to the following questions will give us information needed to expand opportunities for fifth grade girls. Your answers will be kept strictly confidential. Thank you for your cooperation in this effort.

_____ Respondent Number

1. Name _____ 2. Address _____

3. Parent's name _____ 4. Telephone _____

5. Your age _____ 6. School _____

7. Check where you live:

_____ on a farm
_____ in town
_____ in the country, but not on a farm
_____ in a thickly settled area, but not in town

8. Check the following activities in which you take part:

_____ school ball teams
_____ cheerleader
_____ Glee Club or chorus
_____ church organizations
_____ Girl Scouts
_____ other clubs (list)

9. What grades do you receive most frequently on your report? (Check one): _____ A's and B's; _____ B's and C's; _____ C's and D's; _____ D's and F's.

10. List the number of relatives who were 4-H members one year or more:
_____ Parents; _____ Brothers; _____ Sisters

11. Marital status of parents; check one:

_____ both alive, living together
_____ both alive, separated
_____ both alive, divorced
_____ mother not living
_____ father not living
_____ neither parent living

12. About how much income does your family earn each year? (Check one):

_____ less than $3,000 _____ over $5,000
_____ between $3,000 and $5,000 _____ don't know

13. Does your mother work away from home? _____ yes _____ no

14. Does your mother belong to one or more clubs or women's organizations? _____ yes _____ no

15. What kind of work does your father do? _____

16. Circle the number of drivable cars in your family: 0 1 2 3 4 5 6

17. Circle the number of licensed drivers in your family: 0 1 2 3 4 5 6

18. Circle the highest grade completed in school:

by father: 1 2 3 4 5 6 7 8 9 10 11 12 College
by mother: 1 2 3 4 5 6 7 8 9 10 11 12 College

19. Does your mother sew? _____ yes _____ no

20. Does anyone else in your family sew? _____ yes _____ no

21. Have you ever sewn on a full size electric or tredle machine?

_____ yes _____ no

22. Have you ever made an item using the sewing machine? ____ yes ___ no
If your answer is "yes" list the items you have made:

_____

23. Have you ever made an item by hand sewing? _____ yes _____ no
If your answer is "yes" please list the items you have made:

_____

24. Has anyone helped you to learn what you know about sewing? _____ yes _____ no. If your answer is "yes" please check each of the following persons who helped you:

_____ mother _____ sister _____ 4-H Leader
_____ grandmother _____ other relative _____ friend
_____ aunt _____ 4-H agent _____ other (list)

25. Check the following equipment you now have in your home that you would be allowed to use:

_____ sewing machine _____ needles _____ ruler
_____ shears _____ pins _____ pin cushion
_____ scissors _____ tape measure _____ sewing box
_____ thread _____ hem gauge _____ pressing gauge

26. Are you now a 4-H Club member? _____ yes _____ no
If your answer is "no", have you ever been a member of a 4-H Club?
_____ yes _____ no

If you have never been a member of a 4-H Club, you do not need to answer the remaining questions. Thank you and please give this questionnaire to the person in charge of your group

27. Is this your first year as a 4-H Club member? _____ yes _____ no

28. How old were you when you first joined 4-H? _____ years old

29. What was the attitude of your parents or guardians when you first joined a 4-H Club? (check one):

_____ very pleased _____ displeased _____ uninterested

30. Please check the following items you have done as a 4-H Club member:

_____ exhibited animals at a 4-H show
_____ entered a 4-H speaking contest
_____ given a 4-H demonstration
_____ taken a 4-H trip out of the county
_____ entered 4-H Share-the-Fun
_____ exhibited 4-H project work at the fair
_____ served as an officer of your 4-H Club
_____ entered 4-H Dress Revue
_____ entered 4-H Baking Contest
_____ entered 4-H Poster Contest

31. Are you presently enrolled in a 4-H sewing project? ___ yes ___ no
If "yes" why did you choose this project? _____
_____

32. Circle the number of 4-H projects in which you are presently enrolled: 0 1 2 3 4 5

Please list the names of each of these projects: _____
_____

This completes this questionnaire. Thank you and please give your paper to the person in charge of your group.

THE UNIVERSITY OF TENNESSEE
AGRICULTURAL EXTENSION SERVICE
IN COOPERATION WITH MCMINN COUNTY SCHOOLS

SURVEY OF FIFTH GRADE GIRLS

Name _____ Respondent number _____

1. Are you now a 4-H Club member? _____ yes _____ no

2. Are you presently taking the first unit clothing project? _____ yes _____ no

3. Did you receive this year a copy of the 4-H Clothing Project Book? _____ yes _____ no

4. Did you read your clothing project book?

   _____ none of it; _____ some of it; _____ all of it

5. Did someone help you this year with your 4-H clothing project?
   _____ yes _____ no

   If your answer is "yes," please check each of the following persons who helped you this year with your 4-H clothing project:

_____ mother	_____ sister	_____ 4-H leader
_____ grandmother	_____ other relatives	_____ friend
_____ aunt	_____ 4-H agent	_____ other

   Please circle the person checked above who gave you the most help on your 4-H clothing project.

6. Were you this year a member of a 4-H clothing project group?

   _____ yes _____ no

   If "yes," how many meetings did your clothing project group have?
   _____ meetings. How many clothing project meetings did you attend?
   _____ meetings.

7. Did you have a 4-H clothing project leader this year? ___ yes ____no

8. Check the items that you made this year in your 4-H clothing project:

_____ sewing box	_____ cobbler's apron
_____ drawstring apron	_____ gathered skirt
_____ pin cushion	

9. List other items you have made: _____

   _____

10. Did you fill in your clothing project record?
_____ none of it; _____ some of it; _____ all of it

11. Did you turn in your record to your 4-H agent? ____ yes _____ no

12. Did you give a clothing project demonstration this year?
_____ yes _____ no

13. Did you enter the 4-H dress revue this year at your local club meeting? _____ yes _____ no

14. If your answer was "yes," which award did you receive?
_____ purple, _____ blue, _____ red, _____ white

15. If you did not make any item in your 4-H clothing project this year, please tell why you were not able to do so: _____

_____

16. Do you plan to enroll in 4-H next year? _____ yes _____ no
If "yes," what 4-H projects do you plan to take? _____

_____

TESTING DEVICE FOR DETERMINING CLOTHING KNOWLEDGE

_____ Survey Number

NAME Key to Answers 113 Pretest

113 Posttest

I. Place an "F" in the blank beside the sentence if it is false. Place a "T" in the blank beside the sentence if it is true.

1. F When you are sewing, it is best to hold your work in your lap.
2. T You need a good light near your sewing machine.
3. F Good posture is not important when sitting at the sewing machine.
4. T Taping a paper bag at the edge of your work table when sewing is a good way to keep the floor neat.
5. F Since you won't be eating, it is not important to have clean hands when sewing.
6. F Clothes do not need to be hung up after wearing if they are clean.
7. F A safety pin is as good as a button to fasten your skirt if the button is missing.
8. F Socks and underwear do not need to be changed after each day's wear.
9. T A tub bath or a sponge bath is necessary each day to be well groomed.
10. F Teeth should be brushed only once a day.
11. T Hand lotion will help keep your hands smooth.
12. F Long, long fingernails are nice for school.
13. T Hair should be shampooed at least once a week.
14. F It's not necessary to polish your shoes to be neat.
15. F The only thing to do with dresses if they have small rips or tears in them is to throw them away.

II. From the following list of words, choose the correct word to fill in each blank below: straighten crosswise lengthwise sanforized clean-finish off-grain

1. sanforized means the fabric will not shrink very much.
2. lengthwise threads run parallel (the same way) as the selvage edge of fabric.

3. clean-finish — means to turn under and stitch the raw edge of a garment piece.

4. off-grain — means that the threads in a fabric, lengthwise and crosswise slant across each other instead of making right angles.

5. straighten — a fabric that is off-grain you can try pulling the short edges like a see-saw.

6. cross-wise — threads run at right angles to the selvage of the fabric.

III. Write the number of each piece of sewing equipment by its correct name:

7	sharps	13	tape measure	9	eye
1	pressing gauge	11	ball part of snap	3	heavy duty thread
5	shears	6	darner	2	medium thread
14	ruler	4	hem gauge	12	socket part of snap
8	thimble	15	scissors	10	hook

IV. For each of the following statements, write an "X" in the blank beside the letter that matches the letter on the example that is the correct answer.

1. Choose the best hemming stitch for a gathered skirt:

   1 A 2 B 3 C

2. Choose the clothing label that gives the most complete shopping information:

   2 A 3 B 1 C

3. Choose the best way to prevent the selvage edge of the cloth from puckering:

   3 A 2 B 1 C

4. Choose the best stitch for hand sewing the edges of a pin cushion after it has been turned and stuffed:

   1 A 3 B 2 C

5. In making a gathered skirt, which way of preparing the gathers is best?

   1 A 3 B 2 C

V. Identify the following items by matching the letter on the example with the correct term:

A slip stitch	F raw edge	H straight-grain fabric
E overhand stitch	C selvage edge	
D basting stitch	G clean-finished edge	I woven fabric
B buttonhole stitch	J off-grain fabric	K knitted fabric

VI. On the sewing machine find the following parts and put the number by the correct name of the part:

10 pressure foot	6 hand wheel	13 take-up lever
2 tension control	5 bobbin	7 pressure bar lever
4 spool pin	1 throat plate	11 needle
3 bobbin winder	9 feed dog	14 foot control
12 stitch regulator	8 slide plate	

VITA

Dorothy Marsha Carroll was born in Atlanta, Georgia, on October 23, 1942, to Marshall and Dorothy Carroll. She is the eldest of seven children. Her parents resided in Marietta, Georgia, at the time of the writing of this thesis.

Marsha lived in several states during her elementary school years including Georgia, Texas, Oklahoma, Michigan and Tennessee. She attended Bluff City High School in Bluff City, Tennessee, where she graduated in 1960 after completing one year in an experimental accelerated education program at East Tennessee University in Johnson City, Tennessee. She graduated in May of 1963 from East Tennessee State University with a Bachelor of Science in Home Economics.

Marsha was employed as Assistant Home Agent in McMinn County, Tennessee, in January of 1963. She is presently serving as Associate Extension Agent in McMinn County.

She married Richard C. Flanigan in June, 1963. They have three children, Missy, Michael and John. The family makes their home in Athens, Tennessee.