4-H CALCULATING CONSUMER PROJECT: ITS EFFECT ON MEMBERS' KNOWLEDGE, ATTITUDE, AND BEHAVIOR

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CHAPTER I

INTRODUCTION

For over 60 years 4-H has functioned in what is generally considered a successful and satisfactory manner. 4-H is highly regarded as an alternative education program which utilizes experiential learning. During this time, Cooperative Extension, of which 4-H is a part, has been accountable to the public and public officials by providing informal evaluation results and input information. Considerable testimonial data are available verifying the worth of the programs. The number of people reached and the number and type of programs held provide input accountability; however, these claims and attributes have not been regularly and systematically investigated. Today, the systematic evaluation of the results of the programs and/or impact of the programs is required. This shift in emphasis indicates how the political environment has changed and is one of the underlying reasons for the Congressional mandate regarding increased evaluation and accountability.

Need

The Food and Agriculture Act of 1977 mandated the evaluation of the Extension Service and the Cooperative Extension Services (Evaluation of Economic and Social Consequences of Cooperative Extension Programs, 1980). One of the objectives of the evaluation effort is to provide Extension with ways to continue evaluating its programs, and identify and measure outcome data (Evaluation of Economic and Social Consequences of Cooperative Extension Programs, 1980). In recent years, Congress has asked Extension questions which include: who received benefits, what type of benefits, and what difference did it make that Extension has been involved?

The Extension Service has historically engaged in evaluation activities as a normal part of the operation. However, recently there has been increased emphasis from within and outside the organization to do a better job of evaluation. In 1981, when the National Task Force surveyed the State Extension Services to document program evaluation practices and needs, it was found that evaluations generally were informal, ad hoc, and less scientifically rigorous than would be needed for effective organization-wide decision making or external consumption. While extensive data were available indicating various types of input as well as participation, little attention has been devoted to measuring impacts. As a result of these findings and the demand for greater justification of all publicly funded agencies, Extension is placing major emphasis on impact evaluations.

According to Pigg (1980), 4-H has never before considered the task of impact evaluations or comprehensive program evaluation and the methodologies or techniques which would be required to accomplish such tasks. Therefore, currently available data are of limited use for even monitoring, much less for national evaluation of program impacts or consequences (Pigg, 1980).

As a result of the mandate, requests from other sources, and the apparent lack of valid, reliable data, the Extension Accountability/Evaluation System has been developed. The guidelines call for an Extension coordinated and integrated problem solving approach to program development, a four-year plan of work, and three types of program accountability and evaluation: impact studies, accomplishment reporting, and input and participation information (Report of the National Task Force on Extension Accountability and Evaluating System, 1981). It is now apparent that Extension must carefully document program effectiveness. Data must be collected and analyzed in systematic, purposeful ways following the implementation of well developed curriculum.

Problem Statement

This study was an investigation of the effects of the involvement of Oklahoma 4-H members in the 4-H Calculating Consumer Project. The focus of the evaluation research project was the assessment of the impact of the 4-H Calculating Consumer Curriculum on Oklahoma youth, ages 12 to 15 years old.

On a regular basis, volunteer leaders in Oklahoma work with 4-H members to facilitate learning experiences related to various 4-H subject matter projects. The volunteer leaders are encouraged to attend in-service education workshops, utilize leaders' guides, and other resource materials so that a quality educational experience may be provided. It is assumed that the method of delivery is effective and that 4-H members participating in 4-H projects learn and grow as a result of their participation.

In view of the increased emphasis on accountability, 4-H staff members in Oklahoma were interested in assessing the impact of 4-H participation in a specific project. The 4-H Consumer Education curriculum known as "Calculating Consumer" was selected as the basis for the impact study.

The 4-H Calculating Consumer Curriculum was designed to help 4-H members acquire an array of consumer-related skills which were based on the curriculum concepts and instructional objectives identified by the National 4-H Consumer Education Program Development Committee and Task Force and the Oklahoma 4-H Consumer Education Developmental Committee. An effective evaluation for this program was needed to assess the impact on the participants.

Purpose and Objectives

The purpose of this study was to measure the impact of the 4-H Calculating Consumer Project (levels IV through VI). The objectives for the study were:

1. To assess the impact of the 4-H Calculating Consumer Project (levels IV through VI) on 4-H members' knowledge of consumer education.

2. To assess the impact of the 4-H Calculating Consumer Project (levels IV through VI) on 4-H members' attitudes related to consumer education.

3. To assess the impact of the 4-H Calculating Consumer Project (levels IV through VI) on 4-H members' practice adoption of consumer competencies.

Hypotheses

The null hypotheses tested were:

H_1: There is no significant difference in the knowledge level attained by 4-H members who participated in the Calculating Consumer Project and 4-H members who did not participate.

H_2: There is no significant difference in the attitudes regarding consumer education practices of 4-H members who participated in the 4-H Calculating Consumer Project and 4-H members who did not participate.

H_3: There is no significant difference in the adoption of positive consumer practices of 4-H members who participated in the 4-H Calculating Consumer Project and 4-H members who did not participate.

H_4: There is no significant difference in the mean scores on the Measure of Volunteer Commitment Scale between 4-H leaders who work with the control groups and those who work with the experimental groups.

Assumptions and Limitations

The following assumptions are basic to this study:

1. Learning is a process by which an individual uses available resources to acquire new knowledge, skills, or attitudes that are relevant to personal needs or goals.

2. Consumer competencies can be observed and measured.

3. The four stages of the change model are awareness, interest, trial, and adoption.

The limitations of the study involve the following procedures and methods:

1. The sample evaluated in the Calculating Consumer Project was volunteer 4-H members between the ages of 12 and 15.

2. The instructors for the Calculating Consumer Project were 4-H volunteer leaders. Different groups had different instructors.

3. The sample was limited to Oklahoma 4-H members.

Definitions

In order to clarify the terminology in this study, relevant terms were defined as follows:

4-H members are those youth 9 to 19 years of age who voluntarily participate in any extension youth development programs, ranging from only minimal involvement to participation in all opportunities available (Kruse, 1977, p. 26).

4-H leaders include adults and older teens assuming adult-like roles as they work with 4-H members. 4-H leaders are volunteers; they are both learners and teachers. Professional staff provide training and guidance to leaders as they in turn deliver the programs to the youth (Kruse, 1977, p. 26).

Accountability provides constituents with an accurate accounting of results of programs (Stufflebeam and Webster, 1980, p. 15).

Evaluation is a process of making value judgments about the quality (effectiveness) of a product, process, or program.

Evaluation research is the process of using research to collect the evidence upon which the value judgments are made (Rossi and Freeman, 1982).

Committed 4-H volunteers are those volunteers who are recognized as being devoted or dedicated to working with youth through 4-H as determined by the Measure of Volunteer Commitment Scale.

Noncommitted 4-H volunteers are those volunteers whose interest and concerns are not focused on working with youth through the 4-H program as determined by the Measure of Volunteer Commitment Scale.

Consumer education is a process designed to prepare consumers for participation in the marketplace by imparting the understandings, attitudes, and skills which will enable persons to make rational and intelligent consumer decisions in light of their personal values, their recognition of marketplace alternatives, and social, economic, and ecological considerations (Office of Education, 1975, p. 54807).

CHAPTER II

REVIEW OF LITERATURE

The review of related literature has been organized in three sections. First, the theoretical base for impact evaluation will be reviewed. Second, the commitment of volunteers will be discussed. Finally, a discussion of consumer education and its effect on changing knowledge, attitudes, and practice adoption will be undertaken. A summary will conclude the chapter.

Evaluation Research

The first record of evaluation as a formalized process dates back to ancient Chinese civilization in approximately 2000 B.C. (Rose and Nyre, 1977). However, it was not until the 1930's when Ralph Tyler conceived of evaluation as the process of determining the degree to which goals of a program have been achieved that the foundation was laid for the form of evaluation known today. Evaluation models, research design, and impact evaluation characterize the current state of the art today.

Development of Educational Research

Educational evaluation is a formal effort to affix the worth of things in education, such as programs, products, or goals (Popham, 1975). Scriven, in his 1967 essay on evaluation, distinguished between the formative and summative roles of evaluation (Popham, 1975). Formative evaluation refers to assessments of worth focused on instructional programs that are still capable of being modified. Summative evaluation refers to assessments of merits focused on completed instructional programs (Popham, 1975).

During the 1920's and 1930's, reports of research with emphasis on evaluation included the following topics: measurement of student achievement and teaching, assessment of effect of high school home economics on future behavior of students, evaluation of textbooks, and the development of instruments to measure achievement, skills, and attitudes (Ray, 1981). Bailey and Davis (1982) stated that numerous writings of 1935 included the premise that an adequate evaluation program should assist in giving us a basis for deciding both the place to begin teaching and the next steps in teaching. Hughes (1981) reported the first study of home economics in public schools was conducted in 1938 and 1939. In the 1940's, studies in evaluation research dealt with the following: development of instruments for use in clothing and textiles, and foods-nutrition.

Evaluation of Cooperative Extension educational programs involves the measurement of attainment of objectives. Baird (1954) cited reasons for evaluation: public relations, provision of base for future program improvement, assesses the progress of the extension program, motivates clear definitions of educational objectives, stimulates better teaching, strongly influences learning, and provides a sound basis for supervision.

Extension Service Review devoted the September, 1955, issue to evaluation. Emphasis on clear measurable objectives and evaluation plans developed as scientifically and systematically as possible is a prevalent theme throughout the issue (Extension Service Review, 1955). Raudabaugh

(1955), Federal Extension Service, indicated that evaluation, plan of work, and program are inter-related and need an integrated and coordinated approach.

Evaluation in Extension is a manual for Extension workers to use in planning and enacting program evaluations (Byrn, 1959). Tyler's (1949) influence is evident in this publication on evaluation. Evaluation related to the attainment of behavioral objectives is an important part of evaluation today. Steele (1978), in an address to Home Economics Extension Administrators, indicated that evaluation in Extension needs a program plan that integrates and blends curriculum development (Tylerian approach) and resource allocation (business approach).

Rose and Nyre (1977) reported that the launching of the Russian Sputnik sparked the demand for formal program evaluation. The Russian feat began the era of educational reform and evaluation which brought greater federal government financial support and greater demand for accountability. Patton (1978) indicated that from all the turmoil of that period, evaluation research emerged as an alternative to the charity and pork barrel approach to assessing program effectiveness. Today, the emphasis on accountability has increased due to the lack of money to do all the things needed and the realization that more than money is needed to solve complex human and social problems (Patton, 1978).

Evaluation Models

Several evaluation models and theories are reported which have developed since the 1960's (Worthen and Sanders, 1973). In an outline of course materials for an evaluation course, Stufflebeam lists the following models and their proponents: Classicists (Tyler, Hammond, Provus, Popham); Cultural Progressives (Guba, Scriven, Cronback); Functionalists (Akin, Stufflebeam); and Adversarials (Owens, Wolf, Stake) (Gephart and Ingle, 1977). Worthen and Sanders (1973) provided a descriptive summary of the framework for planning evaluation studies listing nine models. Stake (1976) described nine approaches to educational evaluation. In an interview of Daniel Stufflebeam (an EEPA, 1980) printed in Educational Evaluation and Policy Analysis, he cited a survey of evaluation models which counted about 40 alternative evaluation models. Stufflebeam stated that today a broader understanding of evaluation and a program of research about what actually happens in evaluation situations of various kinds is needed (Educational Evaluation and Policy Analysis).

The models developed allow evaluators to determine the needs of the evaluation and use, adapt, and/or modify a model to serve their needs. Bryk and Light (1981) reflect that evaluation design must blend a variety of considerations, including the kinds of questions to be asked, relative strengths and weaknesses of the alternative research designs, interests of the clients and audiences for study, and availability of technical expertise and human and physical resources.

The CIPP evaluation model is a comprehensive model designed by Stufflebeam (1971) to provide information for decision-making in planning, structuring, implementing, and recycling programs. Several sources (Worthen and Sanders, 1973; Isaac and Michael, 1982; House, 1980; Popham, 1975; Extension Service, 1977; Forest, 1976) discussed the comprehensive and integrative qualities of the CIPP model. Stufflebeam distinguished between evaluation for decision-making and evaluation for accountability. He referred to evaluation conducted for the purpose of decision-making as proactive and evaluation conducted for the purpose of accountability as retroactive. The CIPP evaluation model provides information for all four types of evaluation--concept, input, process, and product for program improvement and decision-making regarding a program's future (Rose and Nyre, 1977). One advantage of the CIPP model is the feedback feature which is continuous throughout the total program (Boyle, 1981).

Data requirements identified for accountability which can be met by the CIPP Evaluation Model are: objectives, reasons for objectives chosen, were objectives adopted and achieved, designs selected, reasons for design selection, implementation of design, and effects of design (Isaac and Michael, 1982).

Evaluation Research Society standards for program evaluation address the following general categories: front-ended analysis, evaluability assessment, formative evaluation, impact evaluation, program monitoring, and evaluation of evaluation (Rossi, 1982). The standards are organized into six parts: formulation and negotiation, structure and design, data collection and preparation, data analysis and interpretation, communication and disclosure, and utilization (Rossi, 1982). The standards provide guidelines for developing an evaluation design and conducting a program evaluation.

Pigg (1980) indicates that Extension evaluation needs new methods: a framework for an evaluation strategy that relates clients to methods and consequences, needs assessment techniques, more effective monitoring techniques, generalized data, and development of measurable program objectives. Evaluation research is a means of facilitating decision making in an attempt to get as much as possible from the money that is spent (Pigg, 1980).

One such strategy developed by Claude T. Bennett to study client-perceived results of Cooperative Extension Programs is the Reflective Appraisal of Programs, referred to as RAP. The Reflective Appraisal of Programs (RAP) for studying results of Extension programs is a simple and sufficiently valid method Extension staff can use to document clientele-perceived results of a program. RAP contains standard components that can be easily adjusted or added to in order to create a study tailored to specific needs (Bennett, 1982). RAP relies on perceptions or reflective evidence or the results of the program being studied. Program participants estimate (reflect upon) the extent to which a program brought about change and "payoff."

Bennett identified seven levels of evidence related to objectives for Extension programs which exist at different levels. The three lowest levels of objectives--the most immediate objectives for a program--concern implementation of the program. These levels are: (1) Extension staff invest a given amount of input (time and resources) in order to (2) conduct specified activities intended to obtain (3) people involvement in these activities. The levels of objectives concerning the results of the program include: (4) participants' immediate reactions to program activities, (5) participants' KASA change--knowledge, attitude, skill, and aspiration changes; (6) their practice change, and (7) the end results that occur as a consequence of the KASA change and practice change (Bennett, 1982).

In conducting a RAP study, interviews are conducted, usually by telephone, with a minimum of 30 to 40 program participants per county, area, or district. RAP uses standardized interview questions that can be adapted to Extension programs on a wide variety of subject matters and using a variety of educational methods (Bennett, 1982).

Evaluation Research Design

Best (1981) defines research as the systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles or theories, resulting in prediction and possibly ultimate control of events. Fitz-Gibbon and Morris (1978) define design as a plan which dictates when and from whom measurements will be gathered during the course of an evaluation. The evaluation research design selected needs to be applicable to the evaluation of an on-going program. As many researchers and evaluators have indicated, the true experimental design with random assignments for treatment and control groups are often not possible in educational situations. In Extension, the program is designed by law to be open to all who are interested in participating; therefore, the true experimental design is very difficult to utilize. Fitz-Gibbon and Morris (1978) suggest the use of nonequivalent control group design with a theory based on evaluation as the method to use when policy mandates programs be made available for all persons.

Quasi-experimental designs are used by researchers when true experimental designs are not possible or feasible (Campbell and Stanley, 1963). With the quasi-experimental design, one or two variables are controlled: when the observations are made, when the treatment or independent variable is applied, and when the intact group receives the treatment. The nonequivalent control-group and separate-sample pretest-posttest designs allow the treatment to control for the time when subjects are observed and/or which subjects are exposed to the treatment (Huck, Cormier, and Bounds, 1974). A pretest is vital for most quasi-experiments, and its utility is an assessment of initial differences between nonequivalent groups (Cook, Cook, and Mark, 1982).

General guides for evaluating research that uses a nonequivalent control design are presented (Huck et al., 1974). Selection is a problem for the self-selected version of the design. The design may control for instrumentation and testing. The most likely internal validity threat in the pretest-posttest control group is selection-maturation (Cook et al., 1982). According to Campbell and Stanley (1963), sources of invalidity of the quasi-experimental pretest-posttest design are: interaction of selection and treatment, reactive effects to arrangements, and regression.

An alternative design strategy to control for the effect of maturation, pretesting, regression, and contemporary history begins with several groups which are pretested at the same time but which are posttested at different intervals of time (Isaac and Michael, 1982). By adding a control group with the same pretest-posttest pattern, but without the treatment, the effects of the treatment are to be assessed (Isaac and Michael, 1982).

If evaluation results are to be used effectively, all stakeholders in the evaluation should be involved at the formulation and negotiation state as well as throughout the total process. Utilization of evaluation can be insured according to Patton (1978) if the purpose and objectives of the evaluation are determined and supported by the stakeholders. Forest and Marshall (1981) indicate that the benefits of improved evaluation in Extension can provide programmers, participants, administrators, and legislators with: increased communication, motivation and interest in programs, increased knowledge and understanding of programs, accountability for expenditure of funds, improved decision-making capabilities, and improved programs.

Impact Evaluation

The Evaluation Research Society Standards Committee (Rossi, 1982) defined impact evaluation as one category of evaluation which is aimed at determining program results and effects, especially for the purposes of making major decisions about program continuation, expansion, reduction, and funding. According to Patton (1980), impact evaluations gather data on the direct and indirect program effects on the larger community of which they are a part. Cronbach (1982) indicated that the basic aim of impact evaluation is to estimate the net effects on net outcomes of an intervention . . . free and clear of the effects of other elements in the situation being evaluated. Rossi and Freeman (1982) state that impact assessment is directed at establishing, with as much certainty as possible, whether or not an intervention is producing its intended effects. Sanders (1982) used the term impact study to refer to one designed to provide information about the outcomes of an Extension service or program and whether such outcomes can be attributed to the program or service rather than to some extraneous circumstance. According to Smith (1983), impact studies are designed to measure the extent of change produced by Extension programs.

The consensus from all these authors seems to be that impact evaluation attempts to determine the net effects of programs--net meaning that effects from other aspects of the environment of the program have been ruled out or explained. This definition implies rather succinctly that effects can be identified, that they can be measured, and that the effects of the program being evaluated can be separated from those of other origins. Consequently, evaluating programs for impact requires that data be collected and analyzed in systematic, purposeful ways. It requires that standardized procedures, recognized and trusted by others, be used in order that the findings of program results will be recognized and trusted by others (Smith, 1982). Smith (1983) proposed that the first step in impact measurement is to decide what information needs to be gathered and how it will be utilized. Goals must be clarified and then formulations must be made clear and tangible indicators of program impacts--success, effectiveness--and nonimpact must be documented.

Impact evaluations focus on outcomes and effects. Impact fits the fourth level of the CIPP model (Stufflebeam et al., 1971) of research variables and the top two levels of Bennett's (1979) hierarchy. At the fourth level of the CIPP model, product data are collected to provide an overall assessment of program efficiency. The outcomes of the system are related to the defined objectives. In Bennett's (1979) top two levels, program outcomes are related to changes in client behaviors and practices (Level 6); and to social, personal, and economic effects and satisfactions brought about as a result of the practice changes (Level 7).

Sanders (1982) states there is a lack of consensus about appropriate methodology for conducting impact studies. However, Caro (1971) indicates the basic methodological principles that apply here are the same as those used in traditional inquiry; they are just applied in a "specialized fashion" to fit the situation in evaluation that are different from research.

Situations in evaluation are different from research and each evaluation situation is different. Almost no one now singles out any one design as universally best for evaluation (Cronbach, 1982). Evaluations are situation specific. The design and procedures that suit one setting and set of questions will not necessarily fit other settings and questions.

Although design dimensions vary considerably, analysis techniques are relatively standard. Descriptive statistics (e.g., frequencies, measures of central tendency, etc.) are used first to summarize data. Then correlational statistics (e.g., Chi Square, Pearson Product-Moment Correlation Coefficient) may be used to determine relationships among effects and/or inferential statistics (e.g., $\underline{t}$-test, sign test) used to determine statistical differences between two or more groups or effects (Smith, 1982).

Regardless of the methods used in a specific situation, planning an impact evaluation involves a series of steps. After the evaluability assessment, a usual starting point is the identification of outcome measures that represent the objectives of the program and its other effects. This stage should result in a set of questions to be examined. Step 2 is the securing of procedures (instruments) for attaining data on each question; Step 3 is the formulation of a design that will yield information needed within whatever limits of validity are acceptable. Step 4 is the development of a step-by-step implementation plan which indicates who is responsible for doing what, with whom, and when; Step 5 is the estimation of data analysis requirements; and Step 6 is an anticipation of the primary audience's needs and expectations from the evaluation such that the previous steps yield results that can be reported in ways to satisfy those expectations.

Volunteers and Commitment

> We live in a society that always has depended on volunteers of different kinds--some who can give money, other who give time, and a great many who freely give their special skills, full-time or part-time. If you look closely, you will see that almost anything that really matters to us, anything that embodies our deepest commitment to the way human life should be lived and cared for, depends on some form--more often many forms--of volunteerism (Mead, p. 10).

This quote of Margaret Mead stresses in a most concise manner the importance of volunteer commitment. Service of committed volunteers is an essential part of the American culture. In no other country in the world is volunteer service practiced to the degree it is in the United States (Wilson, 1979).

Need for Volunteers

The impact and influence of adult volunteers in the United States are immeasurable. The 1983 Gallup Survey on Volunteering found that 45 percent of American adults volunteered during the previous year. Boyle and Douglah (1974) cited in their study that over two million adults served in voluntary leadership capacities annually for educational youth organizations. These statistics verified how great was this contribution of volunteerism; further exemplified by Kramer's (1974) remarks that volunteers were a more important and dynamic resource for most nonprofit organizations than money.

Such groups as 4-H, Boy Scouts, Girl Scouts, Campfire Girls, farm youth organizations, and young adult church groups relied almost exclusively on lay people in the community to provide adult leadership for their particular organization. Volunteers were vital to the very existence of these and other similar organizations. Tyler (1966) cited five reasons for utilizing volunteers in youth development organizations as follows:

1. Volunteers furnish greatly needed personnel to supplement and complement the limited professional staff.

2. Volunteers help to maintain a friendly climate in the organization.

3. Volunteers learn from experience in the organization ways to be better members of the family and of the community.

4. Volunteers help to gain public understanding and support for the work and the organization.

5. Volunteers make it possible for the agency to increase its services in spite of a limited budget (p. 155).

Schindler-Rainman and Lippitt (1975) recognized there was a need in our American society for volunteer energy, time, and competence. However, they also stated that of equal importance is the need of individuals to have the opportunity to be of service as a means of self-fulfillment and in order to grow toward self-actualization as a democratic caring-for-others person. The 1983 Gallup Poll on volunteering (1984) stated "helping others" was the primary motive for 45 percent of the Americans who volunteer, which was ironic since volunteerism was actually an outgrowth of the "helping others" principle. In Colonial America, the concept took roots through the tradition of "help thy neighbor" and "it's better to give than to receive." Through the years, as more needs for assistance became evident, volunteers responded in larger numbers and assistance was provided on a more organized basis.

Volunteers: 4-H Leaders

From the earliest history of Cooperative Extension and 4-H, the emphasis was on the involvement of adults as well as youth in 4-H programs. The earliest corn and canning clubs were organized to educate adults as well as youth (Benedetti, Cox, and Phelps, 1976). It was thought that the youth would share newly learned skills and knowledge with their parents, and thus help implement new agriculture and home economics innovations. The 4-H program evolved and expanded through the years to include a more varied curriculum and to acknowledge the role of adults in the program. The Cooperative Extension Service (1976, p. 9) cited the overall objectives of the 4-H program as: "Provide the opportunity for all youth to develop their own greatest potential. Provide for adult education through development and training of leaders to share the program with youth."

Thus, through the period of 70 years, the role of the adult in 4-H has changed from one of being a recipient of educational efforts in 1907 to one of being an informal educator in 1977. The volunteer adult 4-H leader is now a key figure in helping youth develop toward their potential.

Adult volunteer leaders provide a tremendous impact on the 4-H program. This fact was emphasized by Boyce (1981) when he revealed statistics that:

> In the 1980 fiscal year, approximately 450,000 adult men and women served as volunteer leaders. Research studies indicate that these volunteers donated an average of 25 days service to the information education of 4-H members. If Extension were to replace these volunteers with paid aides, it would require a national contribution of around 200 million or approximately three times the present private and public funds now being spent for the 4-H portion of the Extension program (p. 4).

These facts stressed the immense impact of present volunteers on the 4-H program.

Commitment to Volunteers

According to Loftis (1962), commitment can be construed as an expression of man's ceaseless search to find significance in his existence. Perhaps this explains why, according to a 1983 Gallup Poll (1984), the reason given by 45 percent of those surveyed for volunteering was to "help others." Thirty-six percent of those surveyed said they volunteered because they "enjoyed volunteer work," while 32 percent volunteered because they "had a sense of duty." When asked if they would be doing volunteer work next year, those volunteering for one of the above reasons were more likely to say "yes" than those volunteering for other reasons. According to Wilson (1979), those who do volunteer work do so because they are committed to or believe in the program which they are serving.

Commitment is a term that appears in a variety of situations. It is used by social psychologists, sociologists, anthropologists, and popular writers. In short, commitment is dedication or devotion (Loftis, 1962). In spite of the popularity of the term, very little experimental work has been done on commitment (Kiesler, 1971).

Kiesler and Sakumura (1966) defined commitment as pledging and binding of the individual to behavioral acts. Kiesler (1971) operated from the basis that commitment is a continuous variable, rather than a dichotomous one. People are referred to as more or less committed to some behavior, rather than just being committed or not committed.

Four assumptions were projected by Kiesler and Sakumura (1966) which have implications for the exploration of volunteer commitment. These assumptions are:

1. The individual attempts to resolve inconsistencies between the attitude he holds and behavioral acts which he, for one reason or another is induced to perform;
2. The effect of commitment is to make an act less changeable;
3. The magnitude of the effect of commitment should be positively and monotonically related to the degree of commitment; and
4. One may increase the degree of commitment by increasing one or more of the following:
    a. the explicitness of the act, e.g., how public or otherwise unambiguous the act was (Hovland, Campbell, and Brock, 1957);
    b. the importance of the act for the subject (Sherif, Sherif, and Nebregall, 1965);
    c. the degree of volition perceived by the person performing the act (Freedman and Steinbruner, 1964);
    d. the degree of irrevocability of the act (Gerard, 1968); and
    e. the number of acts performed by the subject.

The data from the experiments by Kiesler and Sakumura (1966) indicated that when discussing the concept of commitment and its effects, it is not necessary to depend upon such variables as social support, familiarity with the issue, and extreme opinions.

Consumer Education

Consumer education is the process of increasing the knowledge and skills facilitating attitudes which are necessary for individuals to function competently in the economic system. Greater personal satisfaction and improved quality of life should be possible if individuals or families are able to plan and use resources effectively (Knauer, 1972).

Historical Perspectives

Sporadic efforts to promote the welfare of consumers can be traced back to the beginnings of this nation's history. In the late 1800's, a number of economists broke from the neoclassical ranks to establish the institutional school of economic theory. Perhaps the most notable of these was Thorstein Veblen. Veblen developed an analysis of consumption which incorporated dimensions of decision-making, beyond those of price and utility. In his book, The Theory of the Leisure Class, he argued that people seek ownership of goods more than they desire the satisfaction to be derived from their use. That is, individuals value the possession of goods for possession's sake (Finch, 1985).

Veblen's theory of conspicuous consumption was too radical to gain widespread acceptance; it did provide new insights which prompted others to break away from the traditional view of consumer behavior. One such break with tradition came in the form of Wesley C. Mitchell's The Backward Art of Spending Money (Finch, 1985). Mitchell, in contrast to his predecessors, was concerned with mundane, everyday problems related to consumption and with the inability of people to be effective consumers. He characterized the typical consumer as notoriously extravagant and unskilled in the practice of spending. He cited the ignorance of quality, uncertainty of taste, and carelessness about prices as the fatal flaws of the common shopper. In this way, Mitchell's analysis of the consumer is consistent with the concerns of the consumer movement throughout its history.

There exists a sharp divergence of opinion among historians as to precisely when the consumer movement began. Several noteworthy authorities on this subject cite the publication of Your Money's Worth in 1927 as the earliest evidence of the existence of a consumer effort. Others, mindful of the Food and Drug Act of 1906, have traced the beginnings to that earlier date (Finch, 1985.

The election of Theodore Roosevelt to the presidency in 1900 marked the beginning of an era which was "progressive" and favorable to social change. The driving force behind the eventual passage of legislation against unwholesome and fraudulent practices within the food and drug industry was the publication of Upton Sinclair's book, The Jungle, a frightening account of the filthy conditions prevalent in Chicago meatpacking factories (Tocqueville, 1938).

> The battle for better and stronger laws to protect the consumer from dangerous products proceeded in a sporadic and disorganized manner. Spurred by an increased awareness of their responsibilities as buyers, a number of consumer 'leagues' were organized during Roosevelt's first term in office. Although these unions were sometimes revived to protest high prices following World War I, they were, for all intents and purposes, disbanded after the passage of the Food and Drug Act of 1906 (Nadel, 1971, p. 26).

The second beginning of the consumer movement was initiated with the publication of a book by Stuart Chase and F. J. Schlink entitled, Your Money's Worth (Nadel, 1971). This era in the history of the consumer movement was marked by a loud and general complaint about how the consumer was being cheated. The charges made by consumer advocates of the day were that the cheating was being done on a very wide scale and included nearly all American consumers, without most of them realizing it (Finch, 1985).

In general, consumer protection died with the progressive movement and the onset of World War I. It was not until the Depression and the New Deal that the consumer interest again emerged as an important political factor and the paramount consumer legislative issue was again food and drugs.

As the success of the economy in the 1920's was largely identified with American business, so the economic depression of the 1930's was attributed to the failure of business. The prolonged depression provided a strong stimulus to the consumer movement. One of the most influential literary efforts of this age was 100,000,000 Guinea Pigs (Dangers in everyday foods, drugs, and cosmetics), written by Arthur Kallet and F. J. Schlink. First printed on 12 January, 1933, this book was in its twenty-first printing in February of 1934. To the surprise and outrage of the business community, Kallet and Schlink stated their case using both brand and trade names (Nadel, 1971).

The next few years found little consumer representation in the New Deal; however, the movement continued to grow. Evidence in support of this position can be found on two fronts: legislative efforts on behalf of the consumer and the growing awareness of consumer concerns by the business community (Finch, 1985).

Another major revival of interest in consumerism came in the 1950's:

> Although the causes which contributed to this reawakening are difficult to isolate, the publication of two books have been widely cited in this regard. The first of these, American Capitalism by John Kenneth Galbraith, appeared in 1952. Galbraith articulated the concept of 'countervailing power' as an explanation of the state of the American economic system in the postwar era. The thesis of his book was that although competition in the classical sense no longer prevailed in the economy, the results of competition (a high volume of goods at reasonable prices) did. He postulated that the power of the manufacturers was responsible for and offset by the countervailing power of labour unions and large retail distribution units. It was, Galbraith contended, the cross-effects of these large aggregates of economic power which produced the results of classical competition.
>
> Although Galbraith's analysis of the American economy may have been too technical and intellectual to appeal to the average consumer, his ideas did provide a basis from which some groups argued for the need for stronger consumer representation and greater economic strength in the marketplace.
>
> Much of the enthusiasm and emotional furor which characterized the beginnings of the 1900s and 1930s consumer initiatives was generated by the publication of books that appealed to the populace. The revival of the consumer movement in the

> 1950s followed this scenario as well. The Hidden Persuaders (1957), by Vance Packard, pictured the consumer as being manipulated by the business sector. His premise was that advertising, in particular, had been designed to take advantage of readers' subconscious wants and desires. The implication that the consumer is not the master of his own decisions is reminiscent of the claims made by Schlink in Your Money's Worth (Finch, 1985, p. 30.

Throughout the 1950's, the consumer movement seemed to be making progress, however slowly, and had gained a number of important allies in the United States Senate. Among the most influential was John F. Kennedy:

> During the Presidential campaign of 1960, John F. Kennedy promised that if he were elected he would institute an office for a consumer counsel in Washington to assure that the consumer's voice would be heard in Congress. In 1962 President Kennedy, in his first address to Congress on the needs of the consuming public, delineated the consumer's 'bill of rights.' Consumers, Kennedy stated, have the right to safety, the right to be informed, the right to choose, and the right to be heard. The most influential voice in the history of the consumer movement was, however, yet to be heard.

In 1965, a book entitled Unsafe at Any Speed was published. Its author, Ralph Nader, cited dozens of cases where automobile safety was sacrificed for design. The public was outraged and Nader's book made front page news throughout the nation.

It would be difficult to summarize the activities of Ralph Nader since 1965. He has made measurable progress on behalf of the consumer on so many fronts that there is scarcely an issue of relevance to the modern consumer on which he has not had an impact. This incredible sounding claim can be substantiated if one takes into account the nature and size of the Nader organization. Ralph Nader is well supported by an enormous staff of unpaid volunteers, dubbed "Nader's Raiders" by the media. Consisting largely of students, they have executed much of the research which has been the foundation of Nader's highly publicized investigations. Nader's operation and scope of interests has grown so large that there are currently more than 50 highly specialized groups under his direction (Finch, 1985).

The consumer movement is a term that has been applied to describe a collection of activities which have sought to assert the preeminence of the consumer in an economy (Finch, 1985). Some of these activities date back to the 1800's; however, a sustained consumer movement was not in evidence in the United States until the 1960's. Although the continued substance of this movement into the years ahead is open to speculation, there are a number of attributes of the current state of the movement which suggest that it shall endure and flourish.

Measurement of Consumer Competence

A number of researchers has measured knowledge and/or attitudes of consumers. Most of these studies have used high school or college students as subjects. Few have studied children and even fewer have studied the junior high age adolescent. Only 21 studies relating to child consumers or adolescent consumers have been reported during the past ten years. Only nine such studies have been conducted since 1979 (Consumer Education Organization and Implementation, 1979).

Some studies of attitudes toward finance or consumer education have been reported. Litro's (1969) study of high school students was an inventory of consumer attitudes. Several studies of high school students measured economic knowledge utilizing researcher-developed instruments. Most researchers used the "Test of Economic Understanding" which was developed by the Committee for Measurement of Economic Understanding of the Joint Council on Economic Education, published by the Science Research Associates, Inc.

Studies designed specifically to measure consumer knowledge include one by Bibb (1971) who studied college freshmen. Furrier (1970) measured personal and family financial management competencies of high school students. Lutes (1972) investigated consumer buying knowledge and practices of high school students. Claar (1973) analyzed economic and consumer education knowledge of high school students. Lemmon (1962) studied consumer knowledge of high school home economics teachers and their students. Curry's (1970) research was on the contribution of vocational home economics to the understanding of high school students of basic concepts of consumer education. A variety of instruments was used by these researchers.

Stanley (1976), after reviewing and analyzing most of the various available instruments, developed the "Test of Consumer Competencies (TCC)." The TCC is primarily designed for high school students. Performance on the TCC indicates possession of knowledge which is needed by consumers but does not indicate the efficiency level of consumers in the marketplace.

In 1980, a study of Consumer Knowledge and Attitudes of Kenyan College Students found that students exhibited only a moderate level of consumer knowledge. Previous completion of a consumer education course significantly influenced the knowledge level and attitudes expressed by the students (Lytton, Garmon, and Machooka, 1984). Stokes (1982) conducted a comparative study of competencies attained by students who received instruction in consumer education and students who did not receive instruction. Students who received the instruction had a significantly higher mean gain score than students who had not received instruction. In a study conducted by Bell and Durr (1983), former students perceived consumer education concepts as significantly more useful than current students. The researchers conclude that this could be interpreted as meaning that students out of school actually use consumer education in their living experiences more than do younger students.

Many researchers have concluded that American consumers do not operate at or near an optimum level of consumer awareness (Dickenson and Shaver, 1982). To address this problem, consumer advocates, educators, and researchers have proposed that consumer education programs be initiated to increase consumer awareness. It has been recommended that such programs utilize classroom simulation of common, real-life consumer situations to provide program participants with the opportunity to practice making judgments and decisions (Dickenson and Shaver, 1982).

In a recent study, mothers of third grade children ranked Consumer Education among the most desirable Home Economics topics for their sons and daughters. Consumer Education was seen as even more desirable for sons than daughters (Nichols, Kennedy, and Schumm, 1983). This finding, coupled with the findings of Delporte and Monnet (Jensen, 1985) may have exciting implications for the future of consumer education. Delporte and Monnet demonstrated that consumer education can be taught to 5- to 7-year-old pupils (Jensen, 1985). The Delporte and Monnet study also demonstrated that consumer education given to small children must be very concrete and based on examples which they can recognize from their everyday life.

Most consumer education has typically been oriented at solving problems. The aim has been cognitive development. However, the findings in the network of schools have also demonstrated that consumer education has skill and attitude dimensions as well as cognitive (Jensen, 1985). The attitude-oriented goal should aim at developing the pupils' critical attitude to those aspects of the modern, complex, industrial world (Jensen, 1984).

It appears that consumer education's attempts to induce change may have three basic goals. The goals may be: (1) to change attitudes, (2) to change behavior, or (3) to change both attitudes and behavior. Change in attitude toward an innovation does not always preclude change in behavior (Zaltman and Duncan, 1977). Attitudes toward consumer education may be favorable, but without a change in behavior, consumer practices may not be adopted. To successfully affect a change in behavior or the adoption of an innovation requires more than just knowledge (Rogers, 1969). According to Rogers, innovations include any idea, practice, or object which is seen as new by the relevant unit or audience adopting the change. Schein and Bennis (1965) defined change as the induction of new patterns of action, belief, and attitudes among substantial segments of the population. Zaltman and Duncan (1977, p. 10) viewed change as follows: "Change is defined as the re-learning on the part of an individual or group (1) in response to a newly perceived requirement of a given situation requiring action, and (2) which results in a change in the structure and/or functioning of a social system."

There were two major schools of thought concerning innovation and change (Schein and Bennis, 1965). One school believed changes in education arose from internal factors (Rogers, 1969). The other was based on the concept of external factors which produced change (Zaltman and Duncan, 1977). Both sides of the issue will be presented.

Internal models identified the sources of change as developing from within the organization (Williams, 1983). Usually dissatisfaction with current procedures induces a desire for new procedures. A problem within the organization gives rise to a new solution. There were four stages in the innovation-decision process. To begin the process an individual gained information about the innovation, and developed a favorable or unfavorable attitude toward the innovation. Next a decision was made to adopt or reject the innovation and then additional information was sought to reinforce the decision.

Since people adopt innovations at varying speeds, the inherent innovativeness of the individual was also a consideration. Individual categories included innovators, early adopters, early majority, late majority, and laggards. These categories formed a continuum which in fashion theory was illustrated by the bell curve.

The internal change model focused on the social system and the individuals within that system. Followers of the internal change model believed that adoption of innovations occurred in response to an internal problem to be solved, or in response to ideas from individuals within the organization. Followers of the external change model took issue with this view of the reason for adoption of an innovation. Problems were not the only cause of adoption of innovations, however. With regard to the internal change model, the adoption of an innovation may depend on the fact that either a problem was identified and a solution was sought, or that an innovation was considered attractive so applications of the innovation were suggested. Rogers (1969) identified four major factors of the internal change model. These factors included the innovation, its communication from one individual to another, over time, and among the members of a social system.

The rate of adoption of an innovation is affected by a number of characteristics: relative advantage, compatibility, complexity, trialability, and observability (Rogers, 1969). The more advantageous an innovation appears to be, the more quickly it will be adopted. An innovation will be adopted more quickly if it can be perceived as compatible with the user's past experience and values. An innovation will be more readily adopted if it can be easily understood. An innovation instituted on a trial basis has less perceived risk for the user and so is more easily adopted. The innovation will be more easily adopted if results of the innovation can be seen easily. When a user of an innovation can observe these characteristics, the chances of adoption of the innovation are increased.

A third major factor was time. Change can be affected over time in a number of ways. Rogers (1969) divided the time element into three factors: the innovation-decision process, the degree of individual innovativeness, and the rate of adoption of the innovation in the social system.

Proponents of the external change model argued that adoption of innovations occurred only after there were changes in societal conditions at large. According to external change theory, adoption of innovations by individuals or organizations occurred as a result of pressure from the environment or from pressure by social, economic, or political institutions.

Zaltman and Duncan (1977) indicated that individual change in behavior occurs only when individuals perceive a different situation in society. Relearning on the part of individuals or groups occurs as a result of the change in the structure or function of social systems. Innovations, therefore, can be introduced when significant changes are experienced by the larger society.

Consumer Education for Youth

Today's teens are and will continue to be important consumers. When the Rand Youth Poll conducted its first survey of adolescent spending in 1950, America's teenagers spent $5 billion, compared to $26.1 billion in 1976 (Shannon, 1977). Today's teenage consumers have more money available to them, exercise more influence on their families' purchase decisions, and acquire their own purchasing habits and product preferences at an earlier age (Shannon, 1977). It is estimated that teenage consumers today spend about five percent of the nation's income, but they influence the expenditure of much more. In particular, teenagers influence family purchases of cars, food, clothing, vacations, and televisions (Wessel, 1983).

Consequently, today's teenagers need to understand how their consumer choices affect their lives and the lives of others. They need to understand how the interdependence of all people affects the world's available resources. They need to understand and apply economic management principles as they choose and use goods and services. They need to be responsible citizens willing to participate in improving the marketplace and legislation affecting consumers, producers, and sellers (Wessel, 1983).

It appears that the need for consumer education for youth is beginning to be recognized. According to Esther Peterson (former Director, U.S. Office of Consumer Affairs) (Forum, 1981, p. 2): "Consumer Education is no longer considered a luxury. Administrators used to tell me they did not have money for programs like that. Today communities are asking for consumer education to be added to the curriculum."

As the nation shifts from a consuming economy to one oriented toward conservation because of increasing resource scarcity, teenagers will be tomorrow's adults, responsible for deciding the goods and services for which increasingly scarce resources will be used.

Summary

The literature reviewed in this chapter affirms the need for evaluations of Extension programs. Too few Extension programs of the past have been evaluated to document the impact of the program on the participants. Increased emphasis on accountability and decreased monetary resources demand that today's Extension programs be planned and evaluated to measure change in program participants.

Volunteers are a viable resource to the Cooperative Extension Service. Volunteers are often utilized to deliver programs to youth. The literature reviewed indicated that the use of volunteers who are committed, adequately trained, supervised, and rewarded is an effective method of implementing educational programs.

As the nation shifts from a producing economy to a consuming economy, there is a need for tomorrow's adults, today's teenagers, to learn to apply consumer education skills. Consumer education instruction has been shown to be effective in increasing knowledge, changing attitudes, and developing skills related to consumer competencies.

CHAPTER III

RESEARCH METHODOLOGY AND PROCEDURES

This study was designed to assess the impact of the 4-H Calculating Consumer Project (levels IV through VI) on Oklahoma 4-H members' knowledge of consumer education, their attitudes regarding consumer practices, and their adoption of positive consumer practices. This chapter describes the research design, population and sample, instrumentation, procedures, and statistical analysis used to answer the research question: What is the impact of the 4-H Calculating Consumer Project on the participants?

Research Design

The basic design of the study was a quasi-experimental design which employed experimental and control groups. Campbell and Stanley (1963) explained quasi-experimental designs in the following way:

> There are many natural social settings in which the research person can introduce something like experimental design into his scheduling of data collection procedures (e.g., the when and whom of measurement), even though he lacks full control over the scheduling of experimental stimuli (the when and whom of exposure and the ability to randomize exposures) which makes a true experiment possible. Collectively, such situations can be regarded as quasi-experimental designs (p. 34).

Theoretically speaking, a quasi-experimental design is less scientific than a true experimental design. As implied in the definition, the greatest limitation of the quasi-experimental research is its inability to randomly assign subjects and treatments. However, this research is encouraged by Stanley and Campbell (1963) for researchers who wish to conduct research in an operating situation. The research design used is presented in Table I.

Establishing equivalence of groups is important in quasi-experimental designs. Therefore, pretest scores were used to determine equivalence of the 4-H member groups. Campbell and Stanley (1963, pp. 47-48) noted that "The more similar the experimental and control groups are in their recruitment, the more similarity is confirmed by the scores on the pretest, the more effective this control becomes." The pretest mean scores of the control and experimental groups were similar for each test section of the Calculating Consumer Knowledge, Attitude, and Practice Adoption pretest. Table II shows the mean, standard deviation, and $\underline{t}$ scores for all pretest scores of both the control and experimental groups.

The hypotheses for this study were:

H_1: There is no significant difference in the knowledge level attained by 4-H members who participated in the Calculating Consumer Project and 4-H members who did not participate.

H_2: There is no significant difference in the attitudes regarding consumer education practices of 4-H members who participated in the 4-H Calculating Consumer Project and 4-H members who did not participate.

H_3: There is no significant difference in the adoption of positive consumer practices of 4-H members who participated in the 4-H Calculating Consumer Project and 4-H members who did not participate.

H_4: There is no significant difference in the mean scores on the Measure of Volunteer Commitment Scale between 4-H leaders who work with the control groups and those who work with the experimental groups.

TABLE I

QUASI-EXPERIMENTAL RESEARCH DESIGN

Group	Pretest of Knowledge, Attitude, and Practice Adoption	MOVC	Treatment	Posttest of Knowledge, Attitude, and Practice Adoption	Delayed Posttest of Knowledge, Attitude, and Practice Adoption
RC	O_1	O_2	---	O_3	---
RE	O_1	O_2	X	O_3	O_4

O_1 refers to the Calculating Consumer Knowledge, Attitude, and Practice Adoption pretest measurement.

O_2 refers to the Measurement of Volunteer Commitment Scale.

X represents the Calculating Consumer Project curriculum instruction.

O_3 refers to the Calculating Consumer Knowledge, Attitude, and Practice Adoption posttest measurement.

O_4 refers to the Calculating Consumer Knowledge, Attitude, and Practice Adoption delayed posttest measurement.

TABLE II

MEANS, STANDARD DEVIATIONS, AND *t* SCORES OF CALCULATING CONSUMER KNOWLEDGE, ATTITUDE, AND PRACTICE ADOPTION PRETEST

	N	Knowledge			Attitude			Practice Adoption		
		Mean	Std. Dev.	*t* Value	Mean	Std. Dev.	*t* Value	Mean	Std. Dev.	*t* Value
Control	205	55.800	6.045		25.097	5.198		23.800	4.671	
Experimental	193	57.217	5.682	-2.3597*	25.554	5.659	-0.8372*	24.243	6.619	-0.7680*

*Nonsignificant.

Population and Sample

The 399 members who participated in the quasi-experimental study represented 4-H members from throughout Oklahoma. The 4-H enrollment in Oklahoma was 130,000 members in 77 counties. The enrollment in the Calculating Consumer Project was 3039 members in 77 counties. The sample size, according to the table for determining sample size, from a given population of 3039 was 341 (Fitz-Gibbon and Morris, 1978).

A stratified random sample of 20 4-H clubs composed of volunteer Calculating Consumer Project participants was drawn for this study. Before project work was begun, one group withdrew from the study. The remaining 19 4-H clubs were randomly assigned to the control group (10 clubs) and to the experimental group (9 clubs). The sample was stratified to represent each of the four Extension districts and a balance of rural/urban youth. According to Fitz-Gibbon and Morris (1978), stratifying helps increase representativeness.

All participants in this study were between 12 and 15 years of age. This age group was selected because Calculating Consumer Project materials had been recently developed yet not introduced until the time of the study. At the time of the study there was not an organized consumer education program offered in the Oklahoma public schools, although consumer education was an integral part of vocational home economics. The Consumer Education Curriculum guide was introduced in the fall of 1984.

A review of the 4-H member characteristics shown in Table III finds both the control and experimental groups similar and representative of the target population of 4-H members in Oklahoma.

TABLE III

CALCULATING CONSUMER DEMOGRAPHIC DESCRIPTION OF THE SAMPLE

Group	Age	N	%	Years in 4-H	N	%	Sex	N	%
Control	12	28	7.0	3	0	0.00	Male	64	16.04
	13	64	16.0	4	63	15.78	Female	141	35.33
	14	89	22.0	5	105	26.31			
	15	24	6.0	6	37	9.27			
Experimental	12	35	9.0	3	2	0.50	Male	65	16.29
	13	65	16.0	4	60	15.03	Female	129	32.33
	14	72	18.0	5	94	23.55			
	15	22	6.0	6	38	9.52			

Instrumentation

Four instruments were used for the collection of data in this quasi-experimental study. They included: Calculating Consumer Knowledge, Attitude, and Practice Adoption Test (Forms A and B), and Measure of Volunteer Commitment Scale. In addition, two personal data sheets (member and leader) were used to gather demographic data. The instruments and data sheets were developed or adapted from other instruments to meet the needs of the study.

Calculating Consumer Knowledge Test

The initial step in the construction of the instrument was to devise a Table of Specifications, Figure 1, for the content of the Calculating Consumer materials, Units IV, V, and VI. The key concepts identified in the Table of Specifications found in Figure 1 are the four concepts on which the materials are based. These concepts were originally identified by the National 4-H Consumer Education Program Development Committee and Task Force (1976). Over 150 items were generated covering the content indicated in the Table of Specifications. The items were reviewed by five 12-year-old 4-H members to test readability and understanding. The items were edited, revised, and refined following two administrations to five 4-H members. Subsequently, an items analysis of the instrument was conducted.

The knowledge assessment section of the instrument consisted of 8 weighted true and false statements, 5 short answer questions, and 11 multiple choice questions for a total of 24 items. Test items 1 through 22 comprise the knowledge portion of Forms A and B. The weighted true-false

Concepts	Knowl-edge	Compre-hension	Appli-cation	Analysis	Forms A and B Total Number of Items
The Consumer as an Indi-vidual	5	5	5	0	15
The Consumer as a Member of Society	3	2	2	0	7
The Consumer in the Mar-ketplace	8	5	5	2	20
Consumer Rights and Responsi-bilities	3	1	1	1	6
Total Number of Items	19	13	13	13	48

Figure 1. Table of Specifications for Item Development of 4-H Calculating Consumer Project (Knowl-edge Test)

statements were scored to reward those who knew correct answers and penalize those who guessed. If the participants answered the question correctly and encircled the number 5, they received five points. If they answered the question correctly and encircled the number 3, they received four points. A correct answer and number 1 encircled earned three points. An incorrect answer and number 1 encircled earned two points, while encircling number 3 earned one point and encircling number 5 earned no points. The range of scores possible on the Calculating Consumer Knowledge Test was 0 to 100.

The reliability of an instrument is defined by Isaac and Michael (1982) as its capacity to yield consistent information. Reliability of the Calculating Consumer Knowledge Test was determined by administering the test to a group of 20 4-H members. The odd and even numbered items were then scored separately. The correlation between the odd-even numbered items for each of the 24-item instruments was computed using the Spearman-Brown Prophecy formula. The coefficient of reliability for the Calculating Consumer Knowledge Test Forms A and B was estimated at .91.

Validity is defined by Ahmann and Glock (1975) as the degree to which a measuring instrument actually serves the purpose for which it is intended. Content validity is defined as the extent to which a test measures a representative sample of the subject matter content (Gronlund, 1976). Content validity of the Calculating Consumer Knowledge Test was reviewed and agreed upon by five members of the 4-H Consumer Education Development Committee.

Calculating Consumer Attitude Scale

No existing attitude scale measuring attitudes toward positive consumer practices could be located through a review of literature or personal contact. The investigator, therefore, developed equivalent forms of a Likert-type attitude scale following procedures advocated by Tuckman (1972), Gronlund (1976), Shaw and Wright (1967), and Edwards (1957).

Gronlund (1967) defines attitude scales as self-report inventories designed to measure the extent to which an individual has favorable or unfavorable feelings toward persons, groups, or ideas. He goes on to say:

> They are primarily useful where the individual has little reason for distorting the results, such as in the development of self-understanding or in research. A common research use is in the study of attitude change resulting from particular experiences (e.g., reading, motion pictures, group discussion, and so on). Group results, based on anonymous responses, can also be used to aid in evaluating curricular and extra-curricular programs, specific educational practices, and teaching effectiveness (p. 474).

The initial step in construction of the attitude scale was to devise a Table of Specifications, Figure 2, for the content of the Calculating Consumer Materials, Units IV, V, and VI. The key concepts were originally identified by the National 4-H Consumer Education Program Development Committee and Task Force. Approximately 50 items were generated covering the content indicated in the Table of Specifications. The items were reviewed for content validity by three members of the 4-H Consumer Education Development Committee, revised, and reduced to 24 items. They were reviewed for readability by five 12-year-old 4-H members. Subsequently, the items were scrutinized for conformity to the Table of Specifications and nonduplication, using criteria cited by Shaw and Wright (1967).

Each form of the attitude scale consisted of 12 Likert-type items. Test items 23 through 24 compromise the Attitude portion of Forms A and B. Respondents indicated their reactions to items by means of a five category

Concepts	Receiving	Responding	Valuing	Organization	Value Complex	Forms A and B Total Number of Items
The Consumer as an Individual	2	2	2	0	0	6
The Consumer as a Member of Society	1	1	1	0	0	3
The Consumer in the Marketplace	4	3	3	2	1	13
Consumer Rights and Responsibilities	0	0	0	1	1	2
Total Number of Items	7	6	6	3	2	24

Figure 2. Table of Specifications for Item Development of 4-H Calculating Consumer Project (Attitude Scale)

rating system: strongly agree, agree, undecided, disagree, and strongly disagree. Categories were scored by assigning values of five, four, three, two, and one, respectively. Scoring was reversed for negatively worded items. The range of scores possible on the Calculating Consumer Attitude Scale was 0 to 60.

Reliability of the Calculating Consumer Attitude Scale was determined by administering the test to a group of 20 4-H members. The odd and even numbered items were then scored separately. The correlation between the odd-even numbered items for each of the 12-item instruments was computed using the Spearman-Brown Prophecy formula. The coefficient of reliability for the Calculating Consumer Attitude Scale was estimated at .92 for Form A and .91 for Form B.

Calculating Consumer Practice Adoption Checklist

A review of the literature failed to produce an existing instrument for measuring the adoption of positive consumer practices. The investigator, therefore, developed equivalent forms of a practice adoption checklist. The checklist was developed utilizing procedures advocated by Ahmann and Glock (1975) and Tuckman (1972).

The initial step in construction of the Practice Adoption Checklist was to devise a Table of Specifications, Figure 3, for the content of the 4-H Calculating Consumer Materials, Units IV, V, and VI. Approximately 50 items were generated covering the content indicated in the Table of Specifications and representing observable positive consumer practices. The items were reviewed for content validity by three members of the 4-H Consumer Education Development Committee, revised, and then reviewed by five 12-year-old 4-H members to test the readability and understanding.

Concepts	Forms A and B Number of Items
The Consumer as an Individual	5
The Consumer as a Member of Society	3
The Consumer in the Marketplace	13
Consumer Rights and Responsibilities	3
Total Number of Items	24

Figure 3. Table of Specifications for Item Development of 4-H Calculating Consumer Project (Practice Adoption Checklist)

A sample item from the checklist is: I check for "best buys" before spending money.

The Practice Adoption Checklist consisted of 12 items. Test items 35 through 46 compromise the Practice Adoption portion of Forms A and B. Respondents indicated to what extent the statement described their behavior. Respondents checked one of four columns. Column one was to be checked if the item were always true of the person; Column two, most of the time true of the person; Column three, some of the time true of the person; Column four, never true of the person. The response "always" was assigned five points; the response "most of the time" was assigned four points; a response of "some of the time" was assigned three points; a response of "never" was scored zero. The range of scores possible on the Practice Adoption Checklist is 0 to 60.

The reliability of the Calculating Consumer Practice Adoption Checklist was determined by administering the test to a group of 20 4-H members. The odd-even numbered items were then scored separately. The correlation between the odd-even numbered items for each of the 12-item instruments was computed using the Spearman-Brown Prophecy Formula. The coefficient of reliability for the Calculating Consumer Practice Adoption Checklist was estimated at .90 for Form A and .91 for Form B.

The items were edited, revised, and refined following two administrations to five 4-H members. Subsequently, the items were scrutinized for conformity to the Table of Specifications.

Equivalent Test Forms Development

Following the development of each of the separate test sections just described, knowledge, attitude, and practice adoption items were combined to form equivalent instruments (A and B) consisting of 48 items each. Equivalent forms were required to facilitate the pretest and posttest design and were developed following the procedures advocated by Gronlund (1968), Ahmann and Glock (1975), and Tuckman (1972). The steps included pairing the generated items according to content. One item from each pair was placed randomly into a group for Form A and the other into a group for Form B.

In order to further establish content validity of the equivalent test forms and to obtain a measure of equivalence for the two forms, a group of 20 4-H members was identified and administered Forms A and B of the Calculating Consumer Knowledge Test, Attitude Scale, and Practice Adoption Checklist. Analysis of the correlation of scores on equivalent forms of the Knowledge Test revealed a Pearson Product Moment Correlation of .92 (Table IV). Analysis of the correlation of scores on the equivalent forms of the Attitude Scale revealed a Pearson Product Moment Correlation of .90 (Table V). Analysis of the correlation of scores on the equivalent forms of the Practice Adoption Checklist revealed a Pearson Product Moment Correlation of .89 (Table VI). Appendix A contains the test forms.

The reading level of the instrument, Forms A and B, was computed through the use of the Gunning-Fog Index and the SMOG Index. According to the Fog Index (Forgan and Mangum, 1976), the reading level of Form A was grade 4.6; Form B was grade 4.5. The SMOG Index (Forgan and Mangum, 1976) indicated that the reading level was 10.2 years for Form A and 10.1 form Form B. Since the grade level of the 4-H members tested was grades seven through nine and age levels 12 through 15, the instruments (Forms A and B) were within the reading range of the sample (Table VII).

TABLE IV

MEANS, STANDARD DEVIATIONS, AND CORRELATION OF 4-H CALCULATING CONSUMER KNOWLEDGE TEST (FORMS A AND B)

Form	Mean	Standard Deviation	Correlation
A	54.900	6.013	.92*
B	55.002	5.862	

*Correlation significant at the .01 level.

TABLE V

MEANS, STANDARD DEVIATIONS, AND CORRELATION OF 4-H CALCULATING CONSUMER ATTITUDE SCALE (FORMS A AND B)

Form	Mean	Standard Deviation	Correlation
A	25.067	5.185	.90*
B	24.998	5.679	

*Significant at the .01 level.

TABLE VI

MEANS, STANDARD DEVIATIONS, AND CORRELATION OF 4-H CALCULATING CONSUMER PRACTICE ADOPTION CHECKLIST (FORMS A AND B)

Form	Mean	Standard Deviation	Correlation
A	23.810	4.671	.89*
B	24.253	6.619	

TABLE VII

READABILITY INDEX SCORES OF CALCULATING CONSUMER KNOWLEDGE, ATTITUDE, AND PRACTICE ADOPTION INSTRUMENTS (FORMS A AND B)

Form	Gunning-Fog Index Score	SMOG Index Score
A	4.6 Grade Level	10.2 Age Level
B	4.5 Grade Level	10.1 Age Level

Calculating Consumer Measure of

Volunteer Commitment

The moderator variable of this study was volunteer commitment, defined operationally as the scores on the Measure of Volunteer Commitment Scale (MOVC) which was adapted from the Measure of Professional Commitment Scale developed by Loftis (1962). The moderator variable is described by Tuckman (1972, p. 41) as: ". . . the factor which is measured, manipulated, or selected by the experimenter to discover whether it modifies the relationship of the independent variable to an observed phenomenon."

The construction of the MOVC scale consisted of selecting items thought to be descriptive of persons who were dedicated or devoted to working with 4-H, as identified by the literature. In order to assure that the final selection of items used in the instrument was as valid and objective as possible, a panel of experts was used to analyze the items. Three State 4-H Staff members, two State 4-H leaders, and two members of the National Extension Service 4-H Staff served on the panel. All members of the panel were from states other than Oklahoma.

Each panel member received a packet of materials which included the 110-item instrument, written instructions, and a postage paid envelope for returning the critiqued instrument. Following the review of the panel, the instrument was edited, revised, and refined. In order for an item to be included in the final instrument, it had to be considered descriptive of a committed volunteer by at least five of the seven members of the panel. The panel indicated their judgment of each item needing revision or deletion. A copy of the panel review form is presented in Appendix B.

After tabulation of the panel member's analysis, 100 of the 110 items were selected as being descriptive of a committed volunteer. A sample item from the scale is: This person sees volunteer status as highly desirable.

The MOVC is administered with concealed intent. The purpose of the instrument as revealed in the directions is to study the attitudes which volunteers may have toward volunteerism. The format of the instrument was established with items in random order with three columns drawn to the left of the items. Column one was to be checked if the items were usually true of the person; column two, sometimes true of the person; column three, does not apply to the person. The response of usually true was assigned two points; the response of sometimes true was assigned one point; a response of does not apply was scored zero. In those instances where the items were thought to be descriptive in a negative fashion, point assignment was reversed. The MOVC includes ten such items. The range of scores is 0 to 200. A copy of the MOVC is presented in Appendix C.

The correlation between the odd and even numbered items for the 100-item instrument was computed using the Spearman-Brown Prophecy Formula. The coefficient of reliability for the MOVC was estimated at .91.

Calculating Consumer 4-H Member Personal Data Sheet

The Member Personal Data Sheet (Appendix D) was constructed especially for this study to elicit the following information from each respondent: number of years as a 4-H member, age, sex, address, and other consumer education experiences (see Table III).

Calculating Consumer 4-H Leader Personal Data Sheet

The Leader Personal Data Sheet (Appendix E) was constructed especially for this study to elicit the following information from each respondent: previous experience with the 4-H Calculating Consumer Project, number of years as a leader, age, address, sex, and education status (see Table VIII).

Procedure

This research consisted of four phases.

Phase 1. In 1979, the 4-H literature and Curriculum Task Force identified the need for a comprehensive curriculum in Consumer Education for Oklahoma 4-H youth. As a result, development of the 4-H Calculating Consumer Project Material was begun. A developmental committee composed of 4-H members, volunteer leaders, 4-H agents, the Family Resource Management Specialist, and the 4-H Curriculum Specialist was organized. A four-year time and task table for research and development of the Calculating Consumer Project was established. The goal of the project was to enable youth to become competent or "calculating" consumers. Four basic consumer education concepts were included: the consumer as an individual, the consumer as a member of society, the consumer in the marketplace, and consumer rights and responsibilities. Nine 4-H members guides were developed for ages 9 through 19 and a comprehensive leaders guide was developed for volunteer leaders. The project manuals contain directions for and requirements of the individual and group learning experiences that are the basis of the project. Appendix G contains an outline of the Calculating Consumer Project. The Calculating Consumer Project instruction served as the independent variable for this research study. The independent variable was described by Best (1981, p. 93) as ". . . the conditions or characteristics that the experimenter manipulates in his attempt to ascertain their relationship to observed phenomena."

Phase 2. The second phase was begun during January of 1984. It consisted of reviewing the literature on impact studies, consumer education programs for youth, and developing equivalent instruments to assess knowledge of, attitude toward, and practice adoption of positive consumer education practices based on the Calculating Consumer Project materials. The Measure of Volunteer Commitment Scale was also developed and validated. Teaching materials for the in-service education of 4-H volunteer leaders participating in the Calculating Consumer Project were drafted and pretested.

Phase 3. The third phase was conducted during the late spring of 1984. Three eight-hour in-service education workshops for 4-H volunteer leaders working with the experimental groups were held in three locations in Oklahoma. The workshop outline can be found in Appendix F. The major focus of the workshops was preparing 4-H volunteer leaders with Calculating Consumer Project content and process for the six-week 4-H Calculating Consumer Project. The workshops were designed to allow volunteers to experience the process and activities while they learned about consumer education.

The 4-H volunteers completed the Measure of Volunteer Commitment Scale (MOVC) and the Leader Personal Data Sheet (LPDS) prior to the first in-service education workshop. A review of the 4-H leader characteristics in Table VIII finds the leaders of both the control and experimental groups similar in age, sex, and years of volunteerism as a 4-H leader. The investigator was the primary instructor for all the workshops. The 4-H Staff Development Specialist, a student intern, an experienced 4-H volunteer, and two Extension Agents serving on the 4-H Consumer Education Development Committee assisted with the workshops.

Each volunteer leader worked through two self-educational activities, participated in selected group activities, and individually reviewed other selected activities. All activities related to the four major areas of the 4-H Calculating Consumer Curriculum: (1) the consumer as an individual, (2) the consumer as a member of society, (3) the consumer in the marketplace, and (4) the consumer's rights and responsibilities. At the end of each in-service education workshop, leaders were supplied with all materials needed to conduct the six-week instruction.

Following the in-service training, volunteers returned to their clubs, administered the Calculating Consumer Knowledge, Attitude, and Practice Adoption pretest (Form A), assisted members in completing the Member Personal Data Sheet (MPDS), and began the series of learning experiences for the 4-H members in the experimental groups. Once the learning experiences were completed, volunteers administered the Calculating Consumer Knowledge, Attitude, and Practice Adoption posttest (Form B). All tests and materials were returned to the State 4-H Office for analysis.

No in-service workshop training was offered to the control group volunteers in Phase 3. Each group was involved in six weeks (minimum 12

TABLE VIII

DEMOGRAPHIC DESCRIPTION OF VOLUNTEER LEADERS
CALCULATING CONSUMER PROJECT

Group	Age	N	%	Sex	N	%	Years as a Leader	N	%
Control	Under 25	1	5.26	Male	1	5.26	1-4	1	5.26
	25-34	2	10.52	Female	9	47.36	5-9	3	15.78
	35-44	3	15.78				10-14	4	21.05
	45-54	4	21.05				15 & Over	2	10.52
	55 & Older	0	0.00						
Experimental	Under 25	1	5.26	Male	1	5.26	1-4	1	5.26
	25-34	3	15.78	Female	8	42.10	5-9	3	15.78
	35-44	2	10.52				10-14	4	21.05
	45-54	3	15.78				15 & Over	1	5.26
	55 & Older	0	0.00						

hours) of instruction in a variety of 4-H project work of their own selection.

Phase 4. The fourth phase of this research was conducted during the late summer of 1984. The volunteers administered the delayed posttest of Calculating Consumer Knowledge, Attitude, and Practice Adoption (Form B) three months after instruction. All volunteer leaders were sent letters of appreciation and presented recognition pins by Extension Agents in their counties.

Calculating Consumer in-service education workshops for the volunteers assigned to control groups were conducted following the same format utilized for the leaders working with the experimental groups. This allowed all 4-H members to ultimately receive consumer education instruction.

Statistical Analysis

All data were analyzed through the Computer Science Center at Oklahoma State University utilizing the Statistical Analysis System (SAS Institute, 1982) computer package. The *t*-test was used to determine a significant difference between two sample means. A probability level equal to or less than .01 served as the basis for establishing significance. Results from these statistical analyses are presented in Chapter IV.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The primary objective of this chapter is to report the analysis of the data collected from participants to determine the impact of the 4-H Calculating Consumer Project on Oklahoma 4-H members. The data to test the hypotheses were collected from 399 4-H members and 19 volunteer leaders. Tables presenting the mean and standard deviation of each variable are followed by the analysis of the data relating to the testing of each hypothesis. A discussion of the conclusions, implications, and recommendations resulting from the study will be presented in Chapter V.

Calculating Consumer Knowledge Test

Hypothesis One: There is no significant difference in the knowledge level attained by 4-H members who participated in the 4-H Calculating Consumer Project and 4-H members who did not participate.

The Calculating Consumer Knowledge Test, developed by the author, was used as a pretest and posttest with the participants in both the experimental and control groups. It was also used with the experimental group as a delayed posttest three months following instruction. Table IX presents the means and standard deviations for the pretest, posttest, and delayed posttest.

An examination of the posttest mean scores of the two groups clearly shows the scores of the experimental group to be higher, while the

TABLE IX

MEANS AND STANDARD DEVIATIONS OF CALCULATING CONSUMER KNOWLEDGE PRETEST, POSTTEST, AND DELAYED POSTTEST

		Pretest		Posttest		Delayed Posttest	
Group	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Control	205	55.965	4.9580	55.965	5.329		
Experimental	193	57.226	5.6680	89.160	4.232	86.803	4.391

pretest mean scores for the two groups were similar. The delayed posttest mean score for the experimental group was slightly lower than the posttest score, but higher than the posttest score of the control group.

Hypothesis one was rejected by the data from the posttest. Table X presents the results of the analysis between the experimental and control groups. Analysis using the _t_-test revealed a significant difference at the .0001 level in the mean scores of the posttest for the control and experimental groups.

Calculating Consumer Attitude Scale

Hypothesis Two: There is no significant difference in the attitudes regarding consumer education practices of 4-H members who participated in the 4-H Calculating Consumer Project and 4-H members who did not participate.

The attitude scale, developed by the author, was used as a pretest and posttest with participants in both the control and experimental groups. It was also used as a delayed posttest with the experimental group. Table XI shows means and standard deviations of the pretest, posttest, and delayed posttest.

An examination of the posttest mean scores of the two groups clearly shows the scores of the experimental group to be higher, while the pretest mean scores for the two groups were very similar. The delayed posttest mean score for the experimental group was slightly lower than the posttest score for the experimental group, but higher than the posttest score for the control group.

As shown in Table XII, there was a significant difference between the experimental and control groups when posttest scores were analyzed;

TABLE X

MEANS, STANDARD DEVIATIONS, AND *t* SCORES OF CALCULATING CONSUMER KNOWLEDGE PRETEST AND POSTTEST

Group	N	Pretest Mean	Pretest Standard Deviation	Pretest *t* Value	Posttest Mean	Posttest Standard Deviation	Posttest *t* Value
Control	205	55.965	4.9580		55.965	5.329	
Experimental	193	57.226	5.6680	-2.368	89.160	4.232	-68.535*

*Significant at the .0001 level.

TABLE XI

MEANS AND STANDARD DEVIATIONS OF CALCULATING CONSUMER ATTITUDE PRETEST, POSTTEST, AND DELAYED POSTTEST

Group	N	Pretest		Posttest		Delayed Posttest	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Control	205	25.097	5.198	25.107	4.358		
Experimental	193	25.535	5.659	55.005	4.246	51.668	7.090

TABLE XII

MEANS, STANDARD DEVIATIONS, AND t SCORES OF CALCULATING CONSUMER ATTITUDE SCALE PRETEST AND POSTTEST

		Pretest			Posttest		
Group	N	Mean	Standard Deviation	t Value	Mean	Standard Deviation	t Value
Control	205	25.097	5.198		25.107	4.358	
Experimental	193	25.554	5.659	-0.8394	55.005	4.246	-69.245*

*Significant at the .0001 level.

therefore, hypothesis two was rejected. There was no significant difference in the pretest mean scores of the control and experimental groups. A comparison of the posttest mean scores using the t-test revealed a significant difference between the groups at the .0001 level.

Practice Adoption Checklist

Hypothesis Three: There is no significant difference in the adoption of positive consumer practices of 4-H members who participated in the 4-H Calculating Consumer Project and 4-H members who did not participate.

The Practice Adoption Checklist, developed by the author, was used as a pretest and posttest with the participants in both the control and experimental groups. It was also used as a delayed posttest with the experimental group. Table XIII shows means and standard deviations of the pretest, posttest, and delayed posttest.

An examination of the posttest mean scores of the two groups shows the scores of the experimental group to be significantly higher, while the pretest mean scores for the two groups were very similar. The delayed posttest mean score for the experimental group was slightly lower than the posttest score, but higher than the posttest score of the control group.

Hypothesis three was rejected by the data from the posttest. Table XIV presents the results of the analysis. There was no significant difference in the pretest mean scores of the control and experimental groups. A comparison of the posttest mean scores using the t-test revealed a significant difference between the groups at the .0001 level.

TABLE XIII

MEANS AND STANDARD DEVIATIONS OF CALCULATING CONSUMER PRACTICE ADOPTION PRETEST, POSTTEST, AND DELAYED POSTTEST

Group	N	Pretest		Posttest		Delayed Posttest	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Control	205	23.800	4.671	23.278	4.169		
Experimental	193	24.243	6.619	55.626	3.659	53.404	3.704

TABLE XIV

MEANS, STANDARD DEVIATIONS, AND *t* SCORES OF CALCULATING CONSUMER PRACTICE ADOPTION PRETEST AND POSTTEST

		Pretest			Posttest		
Group	N	Mean	Standard Deviation	*t* Value	Mean	Standard Deviation	*t* Value
Control	205	23.800	4.671		23.278	4.169	
Experimental	194	24.243	6.619	-0.076	55.626	3.659	-82.0552*

*Significant at the .0001 level.

Measure of Volunteer Commitment Scale

Hypothesis Four: There is no significant difference in the mean scores on the Measure of Volunteer Commitment Scale between 4-H leaders who work with the control groups and those who work with the experimental groups.

The Measure of Volunteer Commitment Scale adapted from Loftis (1962) was used to determine the level of commitment of the volunteers working with 4-H members in the control and experimental groups. Table XV presents the means, standard deviations, and *t*-values for the volunteer leaders of the control and experimental groups.

Hypothesis four was supported by the data from the Measure of Volunteer Commitment Scale. Scores on the Measure of Volunteer Commitment Scale were not significantly different for the leaders working with the control groups and those working with the experimental groups.

Summary

Based on the data produced in this study, the results are summarized as follows:

1. When Calculating Consumer Knowledge pretest scores were analyzed, no significant difference was found between experimental and control groups.

2. When Calculating Consumer Attitude pretest scores were analyzed, no significant difference was found between experimental and control groups.

3. When Calculating Consumer Practice Adoption pretest scores were analyzed, no significant difference was found between experimental and control groups.

TABLE XV

MEANS, STANDARD DEVIATIONS, AND *t* SCORES OF THE MEASURE OF VOLUNTEER COMMITMENT SCALE

Group	N	Mean	Standard Deviation	*t* Value
Control	10	182.700	5.638	
Experimental	9	185.555	4.304	-1.2296*

*Nonsignificant.

4. When Calculating Consumer Knowledge posttest scores were analyzed, a significant difference at the .0001 level was found between experimental and control groups.

5. When Calculating Consumer Attitude posttest scores were analyzed, a significant difference at the .0001 level was found between experimental and control groups.

6. When Calculating Consumer Practice Adoption posttest scores were analyzed, a significant difference at the .0001 level was found between experimental and control groups.

7. When Measure of Volunteer Commitment Scale scores were analyzed, no significant difference was found between volunteer leaders of the experimental and control groups.

CHAPTER V

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of the quasi-experimental research design was to assess the impact of the 4-H Calculating Consumer Project on Oklahoma 4-H members. The objectives of the study were: (1) to assess the impact of the 4-H Calculating Consumer Project (levels IV through VI) on the 4-H members' knowledge of consumer education; (2) to assess the impact of the 4-H Calculating Consumer Project (levels IV through VI) on 4-H members' attitudes related to consumer education; and (3) to assess the impact of the 4-H Calculating Consumer Project (levels IV through VI) on 4-H members' practice adoption of consumer competencies. Chapter V will include findings of the research, conclusions, and recommendations for further study.

Findings

Four null hypotheses were tested. Chapter IV presented and analyzed the data. The findings from each hypothesis are presented in this section.

Calculating Consumer Knowledge Test

It was hypothesized that there would be no significant difference in the knowledge level attained by 4-H members who participated in the Calculating Consumer Project and those who did not participate. The quasi-experimental design of the study assessed the entry level of knowledge as measured by a pretest (Appendix A) and the knowledge level after participation in the 4-H Calculating Consumer Project as measured by a posttest (Appendix A).

The similarity of pretest scores of control groups and experimental groups established the equivalence of groups (Table II). According to Campbell and Stanley (1963), similarity as confirmed by pretest scores serves as an effective control in a quasi-experimental design.

The increase in knowledge from pre- to posttest for participants in the experimental group agrees with the findings of Stokes (1982) that students who received consumer education instruction had a significantly higher mean gain than students who had not received the instruction. These findings also agree with a 1980 study of college students which indicated that previous completion of a consumer education course significantly influenced the knowledge level of students (Lytton, Garmon, and Machooka, 1980).

The Calculating Consumer Project results, which indicate a significant mean score gain for Oklahoma boys and girls ages 12 to 15, agree with the findings of Jensen (1985) that consumer education can be taught to pupils of various ages. The statistical analysis of pretest and posttest scores illustrates this point (Table X).

An examination of delayed posttest mean scores (Table IX) found the experimental group gain stable after a three-month period. Lytton, Garmon, and Machooka (1984) also reported gains stable after a follow-up testing.

Calculating Consumer Attitude Scale

Attitude has been defined by Thurstone (1946) as the degree of positive or negative affect associated with some psychological object. The psychological object measured in this study was attitudes regarding consumer practices. It was hypothesized that youth exposed to positive consumer education concepts in the Calculating Consumer Project score no differently on the Calculating Consumer Attitude Scale than those not exposed.

Analysis of the Attitude Scale posttest scores (Table XII) revealed significant differences and differences which remained stable after three months between 4-H members participating in the Calculating Consumer Project and those not participating. Participation in the 4-H Calculating Consumer Project proved effective in modifying attitudes positively. These findings agree with those of Caramoica, Feiler, and Olson (1974), who stated increasing positive attitudes toward personal health practices as a goal in their research. They concluded that attitudes of fifth grade students were positively influenced as a result of their educational intervention. In a study conducted by Lytton, Garmon, and Machooka (1984), students who had previously completed consumer education instruction held significantly different attitudes toward consumer practices than those students with no previous instruction.

Calculating Consumer Practice Adoption Checklist

It was hypothesized that there would be no significant difference in the adoption of positive consumer practices of 4-H members who participated in the Calculating Consumer Project and 4-H members who did not participate. The hypothesis was rejected based on an analysis of the posttest mean scores of the control and experimental groups on the Practice Adoption Checklist.

The increase in adoption of positive consumer practices from pre- to posttest for the experimental group agrees with the findings of Jensen (1984) in which positive practice adoption increased after consumer education instruction.

An examination of delayed posttest mean scores (Table XIII) found the experimental group gain stable after a three-month period. These results are supported by the findings of Corley and Lewis (1975) who found computation skill gains remained stable at a follow-up testing.

Measure of Volunteer Commitment

The Measure of Volunteer Commitment Scale, found in Appendix C and used with volunteer leaders of the control and experimental groups, showed no significant difference between groups (Table XV). Commitment, as measured by this scale, was chosen as a moderator variable to discover if the dedication of volunteers had a relationship to their implementation of the 4-H Calculating Consumer Project.

The finding of no significant difference in level of commitment between leaders of the control group and leaders of the experimental group, lends support to the equivalence of all groups participating in this study. Significant differences were found between control and experimental groups on knowledge, attitude, and practice adoption scores following Calculating Consumer Project instruction. Since all volunteer leaders were equivalent in level of commitment prior to the beginning of

Calculating Consumer Project instruction, the influence of committed versus noncommitted volunteers did not affect the treatment.

Conclusions

Based on the quasi-experimental research design and impact results, the following conclusions are drawn:

1. Commitment level, as measured by scores on the Measure of Volunteer Commitment Scale, was not a factor in gains of mean scores of 4-H members' knowledge, attitude, and practice adoption.

2. Volunteers who have received in-service education are effective in delivering educational programs to youth.

3. Face-to-face in-service education sessions appear to be effective in preparing volunteers to work with 4-H youth groups.

4. The Calculating Consumer Project (levels IV through VI) appears to be an effective curriculum for Oklahoma boys and girls, ages 12 to 15, for positively increasing consumer knowledge, attitudes, and practice adoption of consumer competencies and skills.

5. The positive effects of the Calculating Consumer Project materials appear to remain significant three months following the conclusion of instruction.

Recommendations for Further Study

Additional areas of research were suggested by the study:

1. The Calculating Consumer Knowledge, Attitude, and Practice Adoption instrument should be further refined and validated.

2. The Measure of Volunteer Commitment Scale should be used with volunteers in settings other than 4-H and further validated.

3. The Practice Adoption Checklist should be studied further and related to a taxonomy of behavior change, increasing its validity.

4. The quasi-experimental impact study design used in this study with material development, pre-, post-, and delayed posttests, control and experimental groups should be used to assess the impact of other 4-H projects. This will further test its usability as a model for assessing the impact of 4-H educational intervention.

5. A one-year follow-up of participants should be conducted to determine if delayed posttest scores of knowledge, attitude, and practice adoption remain stable, decline, or increase.

6. The study should be replicated in states other than Oklahoma to determine if 4-H youth react similarly to the Calculating Consumer Project materials.

7. An impact study of Calculating Consumer Project materials (levels I through III and VII through IX) should be designed and implemented to determine the effectiveness of these materials.

8. Methods other than face-to-face in-service education sessions for volunteer 4-H leaders should be investigated to decrease travel time and other resources while maintaining effectiveness. Alternative forms of in-service education such as video, correspondence courses, etc. should be considered.

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APPENDIX A

CALCULATING CONSUMER KNOWLEDGE, ATTITUDE, AND PRACTICE ADOPTION TEST, FORMS A AND B

4-H Calculating Consumer Education

Form A

Name ______________________________

County ____________________________

Instructions: Answer each question one at a time as follows: FIRST, decide whether the statement is true or false and encircle either T or F. Then, decide how sure you are that you have encircled the right answer by encircling one of the numbers described below:

5 - Quite sure
3 - Reasonably sure
1 - My best guess

T F 5 3 1 1. A girl or boy who uses the family lawn mower to earn money is using one resource to create another.

T F 5 3 1 2. Proper care given to possessions such as toys, clothes, and home furnishings can release resources available for other consumer items.

T F 5 3 1 3. Laws which regulate business protect consumers and honest businesses from dishonest practices of others.

T F 5 3 1 4. Government services provided to the public are provided without cost to individuals and families.

T F 5 3 1 5. Setting personal goals is one step in good money management.

T F 5 3 1 6. Sometimes other people influence how we spend our money.

T F 5 3 1 7. To get, use, or do what we need or want, we must have resources.

T F 5 3 1 8. The purpose of advertising is to get people to be consumers.

9. Place an "X" beside the kind of information businesses should provide for consumers.

___ Price ___ Use

___ Size ___ Ingredients

___ Weight ___ Consumer report rating

___ Contents ___ Warnings

10. Underline the weasel words or half truths in the following advertisements:

    a. You might have a penny worth a lot of money. Send for our free catalog; include 95¢ handling charge.

    b. Boys and girls running shoes on sale. Up to 40% off.

    c. Save as much as 50% on this exciting new product.

11. You and other consumers also have similar and different needs and wants. Look at the list below. Put an N beside each item you think is a need. Put a W beside those that are wants.

___ Water	___ Clothes	___ Love
___ Soda pop	___ Jogging suit	___ Bicycle
___ Meat	___ A home	___ Electronic game
___ Hamburger	___ A bed	___ Dental checkup

Instructions: Answer each question one at a time as follows: Select the correct answer from the four choices. Then, write the letter beside the answer you choose in the space provided to the left of the number.

___ 12. A temporary popularity of a particular type of clothing is called

a. fashion
b. fad
c. style
d. leader

___ 13. The greatest source of help for consumers is

a. information and awareness
b. federal regulations
c. honest manufacturers
d. consumer protection agencies

___ 14. When consumers are buying greater quantities of products, businesses

a. expect to pay lower property taxes
b. expect to have lower profits
c. are likely to reduce the number of employees
d. are likely to expand production

___ 15. The central economic problem in the American marketplace is that of satisfying

a. labor union demands
b. unlimited wants with limited resources
c. unlimited advertising budgets
d. the overuse of consumer credit

___ 16. A family used installment credit to buy a new car. This means

a. they have taken on a fixed money obligation for a period of time
b. they will now have more money to spend in the future
c. their savings account has been increased by the amount borrowed
d. the purchase will not affect their budget

___ 17. When planning to buy a new car, a wise consumer <u>first</u> considers

a. optional equipment available
b. family lifestyle and needs
c. trade-in value of old car
d. availability of financing

___ 18. A consumer hurried to his car dealer after seeing a commercial that advertised a two-year old model at $500 under what it should cost. The car had just been sold, but a similar model could be purchased at a slightly higher cost. This technique is called

a. low balling
b. adjusted markup
c. bait and switch
d. loading

___ 19. A program provided by appliance dealers to encourage customers to pay for repairs in advance is

a. a service contract
b. a warranty
c. a guarantee
d. an installment plan

___ 20. The greatest changes in the goals of a family budget would most likely occur in the

a. fixed goals
b. immediate goals
c. short-range goals
d. long-range goals

___ 21. A good source of information on the proper care of furniture and appliances is

a. guarantees and warranties
b. product brochures
c. the Federal Trade Commission
d. sales personnel

___ 22. The right to safety in a product carries with it the responsibility to

a. seek information
b. register complaints
c. honor obligations
d. use the product properly

Instructions: There are five possible responses to each of the items below. They are:

SA - Strongly Agree
A - Agree
U - Undecided
D - Disagree
SD - Strongly Disagree

For each statement, please encircle the response which best represents your attitude regarding the statement.

SA A U D SD 23. Consumers should watch for sales and specials for products they use.

SA A U D SD 24. When shopping, consider only name brands.

SA A U D SD 25. I feel consumers should buy only products that are attractively displayed.

SA A U D SD 26. I like to make decisions on what brands to buy before doing any shopping.

SA A U D SD 27. Consumers should read advertisements and other consumer information to get the facts.

SA A U D SD 28. When planning a purchase, I like to check for the best time of year to buy certain products.

SA A U D SD 29. Consumers should take substitutes for sale items at salesperson's suggestion.

SA A U D SD 30. When I buy, it is important to make sure the product is exactly what I need or want.

SA A U D SD 31. I feel checking guarantees and warranties for repair and/or replacement information is very important.

SA A U D SD 32. It is smart to make sure the price is what you are willing and able to pay.

SA A U D SD 33. Consumers should read the instruction booklet before trying new products.

SA A U D SD 34. Consumers have a responsibility to return a product to the store where purchased if not satisfied.

Instructions: Please check the blank following each statement which describes you. Please check only one answer for each statement.

	Always	Most of the Time	Some of the Time	Never
35. I conserve resources such as water and electricity.	____	____	____	____
36. I plan the use of my money.	____	____	____	____
37. I balance needs and wants and resources when making choices.	____	____	____	____
38. I think about the influence of friends, family, and advertising on choices I make.	____	____	____	____
39. I check for "best buys" before spending money.	____	____	____	____
40. I am careful not to abuse or misuse personal or public resources.	____	____	____	____
41. I practice responsible consumer behavior.	____	____	____	____
42. I read about goods or services on labels, in buying guides, or booklets before buying.	____	____	____	____
43. I follow use and care instructions carefully.	____	____	____	____
44. I know where to go for help with consumer problems.	____	____	____	____

	Always	Most of the Time	Some of the Time	Never
45. I recognize "weasel words" or "half truths" in advertisements.	______	________	________	_____
46. I buy and return beverages in returnable bottles.	______	________	________	_____

4-H Calculating Consumer Education

Form B

Name ______________________________

County ____________________________

Instructions: Answer each question one at a time as follows: FIRST, decide whether the statement is true or false and encircle either T or F. Then, decide how sure you are that you have encircled the right answer by encircling one of the numbers described below:

5 - Quite Sure
3 - Reasonably sure
1 - My best guess

T F 5 3 1 1. Businesses could reduce waste by redesigning products and packages.

T F 5 3 1 2. To be a calculating consumer, you need to be aware of factors which incluence consumer spending.

T F 5 3 1 3. Kent painted all the bedrooms in their farm home. His painting ability can be considered a resource.

T F 5 3 1 4. Special purchase sales are to clear out left-over items in the store.

T F 5 3 1 5. Quick decisions are usually wrong.

T F 5 3 1 6. Paying cash for all items is a good way to maintain a good credit rating.

T F 5 3 1 7. Inflation is the decrease in purchasing power of the dollar.

T F 5 3 1 8. Calculating consumers realize advertisements may tell only desirable qualities of a good or service.

9. Place an "X" beside the kind of information businesses should provide for consumers.

___ Price	___ Use
___ Size	___ Ingredients
___ Weight	___ Consumer report rating
___ Contents	___ Warnings

10. Underline the weasel words in the following advertisements:

    a. You might have a penny worth a lot of money. Send for our free catalog; include 95¢ handling charge.

    b. Boys and girls running shoes on sale. Up to 40% off.

    c. Save as much as 50% on this exciting new product.

11. You and other consumers also have similar and different needs and wants. Look at the list below. Put an N beside each thing you think is a need. Put a W beside those that are wants.

___ Water	___ Clothes	___ Love
___ Soda pop	___ Jogging suit	___ Bicycle
___ Meat	___ A home	___ Electronic game
___ Hamburger	___ A bed	___ Dental checkup

Instructions: Answer each question one at a time as follows: Select the correct answer from the four choices. Then, write the letter beside the answer you choose in the space provided to the left of the number.

___ 12. The objectives of a family's savings program are more easily attainable when the family has

a. money left over at the end of a pay period
b. a carefully planned set of goals
c. a pay-as-you-go savings plan
d. money invested in stocks and bonds

___ 13. Which information is not required on the labels of all food products?

a. the ingredients
b. the net weight
c. the product name
d. the name of the producer or distributor

___ 14. A temporary popularity of a particular type of clothing is called

a. fashion
b. fad
c. style
d. leader

___ 15. An early legislative attempt by the federal government to protect the consumer was the

a. Truth-in-Lending Act
b. Pure Food and Drug Act
c. Flammable Fabric Act
d. Motor Vehicle Traffic Safety Act

___ 16. One of the most valuable recordkeeping devices for a family or individual is

a. a file cabinet
b. an estimated income tax form
c. a checkbook
d. warranty or guarantee forms

___ 17. The most important factor in changing people's lifestyles and their demand for more recreational activities has been

a. increased incomes
b. reduced working hours
c. fewer technical vocations
d. fewer blue collar jobs

___ 18. As family income rises, there is a tendency to spend proportionally <u>fewer</u> dollars on

a. food
b. taxes
c. automobiles
d. housing

___ 19. The most effective way the consumer can influence the sales price of products in the marketplace is to

a. require federal chartering of corporations
b. establish federally enforced grade labeling of products
c. buy only when well-established price ceilings for products exist
d. make informed choices based on price and quality comparisons

___ 20. A new sofa from a department store costs $30 more than the same sofa from a discount store. This is because the department store probably

a. sells better quality items
b. must sell at list price
c. does not advertise
d. provides free home delivery

___ 21. The amount a family can spend when developing a budget is

a. gross income
b. investment income
c. net income
d. taxable income

___ 22. Usually the least costly way for a consumer to obtain new clothing would be to buy

a. standardized items
b. from specialty shops
c. second or flawed items
d. out-of-season specials

Instructions: There are five possible responses to each of the items below. They are:

SA - Strongly Agree
A - Agree
U - Undecided
D - Disagree
SD - Strongly Disagree

For each statement, please encircle the response which best represents your attitude regarding the statement.

SA A U D SD 23. Smart shoppers select products on first impressions.

SA A U D SD 24. Everyone should consider their needs and wants before making a purchase.

SA A U D SD 25. Consumers should read all contracts before signing.

SA A U D SD 26. I feel a salesperson's word is as good as a warranty.

SA A U D SD 27. Consumers should take substitutes for sale items at salesperson's suggestion.

SA A U D SD 28. I feel checking guarantees and warranties for repair and/or replacement information is very important.

SA A U D SD 29. Consumers have a responsibility to return a product to the store where purchased if not satisfied.

SA A U D SD 30. I feel it is important to date and file each warranty and instruction booklet.

SA A U D SD 31. Consumers should watch for sales when they plan to make a major purchase.

SA A U D SD 32. Having a plan for the use of income is a good idea.

SA A U D SD 33. I feel generic brands are less desirable than name brands.

SA A U D SD 34. Consumers should read the use and care information before using a new appliance.

Instructions: Please check the blank following each statement which describes you. Please check only one answer for each statement.

	Always	Most of the Time	Some of the Time	Never
35. I return "returnable" bottles.	______	______	______	______
36. I turn off the lights when leaving a room.	______	______	______	______
37. I read instruction booklets before using new items.	______	______	______	______
38. I check for sales before spending money.	______	______	______	______
39. I have a plan for spending my money.	______	______	______	______
40. I know how to register a complaint for an unsatisfactory product	______	______	______	______
41. Before making a major purchase, I compare several prices, brands, and warranties.	______	______	______	______
42. I recognize the "bait and switch" technique	______	______	______	______
43. I put litter in its proper place.	______	______	______	______
44. I think about the influence of advertising on choices.	______	______	______	______

	Always	Most of the Time	Some of the Time	Never
45. I am careful when using public resources.	____	____	____	____
46. I have a plan for saving money.	____	____	____	____

APPENDIX B

CALCULATING CONSUMER KNOWLEDGE, ATTITUDE, AND PRACTICE ADOPTION TEST, PANEL REVIEW FORM

_____ Review Code Number

Measure of Volunteer Commitment
Panel Review Form

Directions:

Please list below those items from the Measure of Volunteer Commitment which you feel are not descriptive of volunteers who are dedicated or committed to working with youth through 4-H. Indicate to the right of the item number whether this item should be deleted or revised. Space is provided for suggested revisions.

Item Number	Delete	Revise
_____	_____	_____

Suggestion for Revision ______________________________

____

_____	_____	_____

Suggestion for Revision ______________________________

____

_____	_____	_____

Suggestion for Revision ______________________________

____

_____	_____	_____

Suggestion for Revision ______________________________

____

_____	_____	_____

Suggestion for Revision ______________________________

____

APPENDIX C

CALCULATING CONSUMER MEASURE OF VOLUNTEER COMMITMENT SCALE

4-H leaders are recognized as unique individuals whose attitudes may or may not be like those found in others. People have a variety of ideas as to which attitudes toward the work of 4-H leaders are most prevalent among 4-H leaders. Although many instances may be found of others describing 4-H leaders, we feel that you are the most appropriate person to describe yourself.

DIRECTIONS:

In the statements which follow, "this person" in every case refers to you. Respond to all items with reference to yourself. Your response will be kept confidential and in no way will you be identified in the study.

In the appropriate column to the right of each statement, indicate the response which corresponds the closest to your impression about yourself.

	Usually true of this person	Sometimes true of this person	Does not apply to this person
1. This person values independent action	0	0	0
2. World affairs are of concern to this person	0	0	0
3. This person finds satisfaction in life and in his work without either providing all the satisfaction	0	0	0
4. This person accepts the responsibility of freedom . . .	0	0	0
5. This person is aware of his own needs	0	0	0
6. This person is sensitive to the goals of others	0	0	0
7. This person sincerely cares about the well-being of others	0	0	0
8. This person tends to disapprove of the present	0	0	0
9. This person feels free to examine and question ideas .	0	0	0
10. This is a person of utmost sincerity	0	0	0
11. This person maintains emotional reserve	0	0	0
12. This person is willing to accept the consequences of his own actions	0	0	0
13. This person values the search for knowledge as much as knowledge itself	0	0	0
14. This person produces work that has unique qualities . .	0	0	0
15. This person identifies himself with 4-H	0	0	0
16. This person finds self-advancement a worthwhile purpose	0	0	0
17. This person serves as an identification figure for others	0	0	0
18. This person frequently seeks a new beginning in his work	0	0	0
19. This person overcomes outside force or domination . . .	0	0	0
20. This person likes to work with others	0	0	0
21. This person identifies with the achievements of a movement	0	0	0
22. This person is unafraid of self-knowledge	0	0	0
23. This person is often intensely discontented	0	0	0

	Usually true of this person	Sometimes true of this person	Does not apply to this person
24. This person is oriented to his job	0	0	0
25. This person makes decisions in the light of possible consequences	0	0	0
26. This person is engaged in at least one service project	0	0	0
27. This person belongs to community organizations	0	0	0
28. This person shares responsibility for the welfare of the group	0	0	0
29. This person is willing to re-examine his own attitudes	0	0	0
30. This person sees volunteer status as highly desirable	0	0	0
31. This person has faith in the future	0	0	0
32. This person enjoys discussing controversial issues	0	0	0
33. This person works hard to make a thing successful	0	0	0
34. This person has social ideals as well as ideas	0	0	0
35. This person recognizes his own biases	0	0	0
36. This person shows a keen interest in national affairs	0	0	0
37. This person makes decisions based on possible outcomes	0	0	0
38. This person behaves in a mature manner	0	0	0
39. This person values the search for truth as much as truth itself	0	0	0
40. This person minds his own business	0	0	0
41. This person believes that values are relative	0	0	0
42. This person is willing to assume leadership	0	0	0
43. This person is usually selfish	0	0	0
44. This person is concerned with understanding the world in which he lives	0	0	0
45. This person can foresee possible outcomes of his actions	0	0	0
46. This person takes advantage of opportunities for self-advancement	0	0	0
47. This person is willing to work hard	0	0	0
48. This person welcomes new experiences	0	0	0
49. This person's actions are deliberate	0	0	0

		Usually true of this person	Sometimes true of this person	Does not apply to this person
50.	This person is creative	0	0	0
51.	This person is willing to change	0	0	0
52.	The concerns of other people are of interest to this person	0	0	0
53.	This person finds it difficult to withhold criticism	0	0	0
54.	This person expects others to support existing policies without question	0	0	0
55.	This person is involved in community affairs	0	0	0
56.	This person's interests are limited to his work	0	0	0
57.	This person initiates relations with others	0	0	0
58.	This person is generous in appraising the behavior and motives of others	0	0	0
59.	This person seems to have achieved personal happiness	0	0	0
60.	This person can foresee possible outcomes of group actions	0	0	0
61.	This person can take a point of view different from his own discussion	0	0	0
62.	This person willingly makes whatever effort is necessary to insure the success of an enterprise	0	0	0
63.	This person tends to resist innovations	0	0	0
64.	This person is able to recognize his limitations	0	0	0
65.	This person has a strong drive for power	0	0	0
66.	This person finds fulfillment in his work	0	0	0
67.	This person makes his position clear on issues	0	0	0
68.	This person is stimulated by controversy	0	0	0
69.	This person is able to accept his weaknesses	0	0	0
70.	This person puts forth much effort for success in the 4-H program	0	0	0
71.	This person relies on others for support	0	0	0
72.	This person prefers activities affording close contacts with people	0	0	0
73.	This person can recognize his own weaknesses	0	0	0
74.	This person takes an active part in 4-H activities	0	0	0

	Usually true of this person	Sometimes true of this person	Does not apply to this person
75. This person has an excessive capacity for work	0	0	0
76. This person can face himself honestly	0	0	0
77. The majority of this person's decisions are based on rational grounds	0	0	0
78. This person believes that 4-H contributes to the leadership development of youth	0	0	0
79. This person feels that working with youth tends to keep a leader young, alert, and active	0	0	0
80. This person believes that 4-H leaders are molders of society	0	0	0
81. This person believes that 4-H is an education for the leader as well as the 4-H member	0	0	0
82. This person is highly motivated to work hard for success	0	0	0
83. This person demonstrates consistent fairness in his dealings with others	0	0	0
84. This person is conscientious about his job	0	0	0
85. This person strives to improve his abilities	0	0	0
86. This person is easily influenced by others in making decisions	0	0	0
87. This person is concerned with being true to himself . .	0	0	0
88. This person seems somewhat unaware of difficulties involved in vast undertakings	0	0	0
89. This person enjoys the give and take of controversy . .	0	0	0
90. The actions of this person are purposeful	0	0	0
91. This person identifies with the efforts of a movement .	0	0	0
92. This person produces work that is marked by originality	0	0	0
93. This person seeks to dominate people	0	0	0
94. This person identifies with his work	0	0	0
95. This person feels that the desire for self-advancement is legitimate	0	0	0
96. This person seeks to understand himself better	0	0	0
97. This person avoids dominating others	0	0	0

	Usually true of this person	Sometimes true of this person	Does not apply to this person
98. This person feels 4-H is above criticism	0	0	0
99. This person identifies himself with 4-H	0	0	0
100. This person believes 4-H is a worthwhile activity for youth	0	0	0

APPENDIX D

CALCULATING CONSUMER MEMBER DATA SHEET

4-H Calculating Consumer Member

Personal Data Sheet

Name ______________________ County ______________

Address ______________________________________

Phone (   ) __________ Club Name ______________________

1. What is your present age?

   a. 10 or under
   b. 11
   c. 12
   d. 13
   e. 14
   f. 15
   g. 16
   h. 17 or older

2. What is your sex?

   a. Male __
   b. Female __

3. How many years have you been a 4-H member (count this year)?

   a. 2 or less
   b. 3
   c. 4
   d. 5
   e. 6
   f. 7
   g. 8
   h. 9 or more

4. Have you participated in any other consumer education proejct or class?

   a. Yes __
   b. No __

APPENDIX E

CALCULATING CONSUMER LEADER DATA SHEET

4-H Calculating Consumer Leader

Personal Data Sheet

Name ______________________ County ______________

Address ______________________________________

Phone (   ) ___________ Club Name ______________________

1. What is your present age:

   a. 25 or younger
   b. 26-30
   c. 31-35
   d. 36-40
   e. 41-45
   f. 46-50
   g. 51-55
   h. 56 or older

2. What is your sex?

   a. Male ___
   b. Female ___

3. What is your educational status?

   a. High school diploma
   b. High school diploma with some college work
   c. Bachelor's degree
   d. Bachelor's degree with some graduate work
   e. Master's degree
   f. Master's degree with some graduate work
   g. Other (specify): ______________ ______________________

4. How many years have you been a 4-H leader?

   a. Less than one month
   b. One month to one year
   c. One year to less than three years
   d. Three years to less than five years
   e. Five years to less than eight years
   f. Eight years to less than fifteen years
   g. Fifteen years to less than twenty-five years
   h. Twenty-five years

5. Have you worked with the 4-H Consumer Education Project prior to this experience?

   a. Yes __
   b. No __

APPENDIX F

CALCULATING CONSUMER VOLUNTEER IN-SERVICE

EDUCATION OUTLINE

Calculating Consumer Project

Volunteer In-Service Education Outline

Have Done	Before the Session
________	1. Study plan, manuals and leader's guide.
________	2. Practice dialogue (feel free to modify).
________	3. Note time frame: Parts I, II, III--1 hour Break--5 minutes Part IV--1 hour Part V--15 minutes
________	4. Obtain and view slide-tape.
	Immediately Before Session
________	1. Arrange room for sitting and moving activities.
________	2. Lay out manuals and materials <u>in order of use during session</u>.
________	3. Put welcome and first activity instructions on board or or flip chart.
________	4. Set up projector, tape recorder, screen. Try slides and tape.
________	5. Take a deep breath, smile, pray--you're on.
	During the Session
________	1. Focus attention on attendees. Remember they are the ones who are learning and becoming sufficiently motivated to reach others.
________	2. Start on time.
________	3. Watch your time closely; keep group on schedule but be flexible.
________	4. Use your judgment as to which activities to include or omit.
________	5. Point out teaching strategies--<u>why we are doing what we are doing</u>.
________	6. Remain enthusiastic and calm.
	After the Session
________	1. Set up again for next session or dismantle.
________	2. Keep kit of materials for your district.
________	3. Jot down notes, suggestions, ideas, questions, and give to Shirley

______ 4. Give Shirley the envelope with both sets of cards and your comments.

______ 5. Rest, relax, breathe a sigh of relief. It is finished!!

TIME	MATERIALS	DIALOGUE/OUTLINE
		PART I: WELCOME
5-10 min. prior to start of session	Cards Instructions on chart or board	On board write "Welcome to FOCUS on Consumer Education" "I'm ______" "Complete these sentences on your cards": My favorite color is ______ My favorite leisure activity is ______
		A. Get Acquainted Activities
		1. Encourage attendees to fill out cards as soon as they enter the room. Explain that they are to respond to the unfinished sentences on the board or chart. When they have filled out the cards, they are to find someone with the same response and get acquainted.
	Same cards	2. Ask all to be seated. Tell attendees to turn cards over and fill out the following information: Name ______ Address ______ Phone No. ______ Previous leader of Consumer Ed. Yes __ No __ Child in Consumer Ed. Project Yes __ No __ I think Consumer Education is ______ Collect cards. Put in envelope.
		B. Introduction to Session
		1. Introduce yourself--a member of the 4-H Development Committee who has

TIME	MATERIALS	DIALOGUE/OUTLINE
		guided the creation of the curriculum since early 1979.
		2. State purposes of session: To learn about consumer education as a 4-H project--its history, objectives, literature, materials, and potential to help people. To become motivated to get involved, to encourage 4-H members to enroll, and other adults to lead.

PART II: CONSUMER EDUCATION FOR OKLAHOMA YOUTH

TIME	MATERIALS	DIALOGUE/OUTLINE
2 min.		A. <u>What Is It?</u>
		1. Introduce slide show--developed by the committee to publicize and explain the project. Tell attendees to watch for challenges in today's world; similarities and differences with yesteryear's potential and objectives.
7 min.	Slides-tape projector/ screen recorder	2. Show slides (turn out lights, darken room).
		3. Review objectives and potential (encourage attendees to discuss).
		4. Restate how the show can be used: a. At fairs, meetings, schools to recruit members. b. At civic, PPAC and county council meetings to get support for the project.
		5. Explain how to get the slide show (contact county agent who can obtain from district office).
		B. <u>What Is Its History?</u>
3 min.		1. <u>1978</u> Identified as need by 4-H Task Force on Curriculum and Literature and by Home Economics Cooperative Extension. Bonnie Braun, Family Resource Management Specialist, agreed to give leadership to development of the curriculum.

TIME	MATERIALS	DIALOGUE/OUTLINE

2. 1979 Developmental Committee formed. Consisted of Extension Agents in each district; a leader; two 4-H members; Bonnie Braun, HECE; and Shirley Hastings, 4-H.

   Goals and objectives for program established:

   a. To create literature for first three years and a leader's guide for 1980--next six years and leader's guide in 1981
   b. Create promotional materials (slide tape, exhibits, brochures, news items)
   c. Conduct a FOCUS training session
   d. Urge members, leaders, and agents to get involved.

PART III: THE LITERATURE

A. Introduction of "CC"

TIME	MATERIALS	DIALOGUE/OUTLINE
5 min.	Person in "CC" costume; brochures for each member	Another decision of the committee was to create a character to help leaders teach boys and girls to get attention and interest of youth and adults. The character chosen was CALCULATING CONSUMER, known as "CC" to friends. The name, of course, has a double meaning--the goal of the project is to become a consumer who carefully and correctly makes choices--a "calculating" decision-maker. And here, today, making its debut is our version of "CC". . . . (Let "CC" come in, walk around, and pass out brochures.)

B. Introduction to Leader's Guide

TIME	MATERIALS	DIALOGUE/OUTLINE
10-15 min.	First part of Leader's Guide	Now that you have met "CC," who as a character in the member's manuals will be helping you, boys and girls, let us get acquainted with the Leader's Guide. "CC," could you pass out the first part of the guide? For those of you who brought a 3-ring notebook, put this part in the notebook.

TIME	MATERIALS	DIALOGUE/OUTLINE

In the eight hours allotted to our session, we cannot read these manuals completely and do some of the activities. Therefore, let me "walk you through" the literature--then you can read it at home.

Turn first to the "Welcome." There you will find an explanation of why consumer education is important.

The "Introduction" to the project is next. The three levels are explained and a list of "helps" for leaders is given.

The "Outline of the Project" follows. This includes the goals of the project. One paragraph explains that the learning experiences were created to build on one another.

"Young People as Consumers" is the next topic. In three short paragraphs the needs, wants, interests, and resources of 12- to 15-year-old consumers are briefly explained.

In addition to understanding young people as consumers, leaders must understand what young people are like as learners. Thus, the next section lists characteristics of "Young People as Learners."

Not many projects succeed without planing. Thus, the section "Planning for the Project" contains suggestions for how to get organized, use teen leaders, and reach out to families--including a sample letter.

"Conducting the Project" is next. Use of a plan, assignments for members, emphasizing points, and self-preparedness is noted.

Consumer Education need not stand alone. There is a consumption component of every 4-H project. "Consumer Education + Other Projects" is a section with a few ideas for which other projects might fit with each unit in each member's manual. As a committee, we plan to expand this list in the future.

TIME	MATERIALS	DIALOGUE/OUTLINE
		To finish the project, a few suggestions are given in the "Completing the Project" section.
		"Achievement Activities" are next. These can be done in addition to the individual and group activities listed in the manuals and guide. Ideas are given for exhibits in each level. Some general ideas for illustrated talks and demonstrations are also given. You and your members will no doubt think of more.
		There is a vast amount of information that can supplement the project. In "Selected Information Sources," a few are given.
		No project is complete without an "Evaluation." Just as each member and parent are to complete the project record, we want you as a leader to complete the 4-H literature analysis sheets and evaluation form included in the guide. Return these to Bonnie Braun when you complete the project. I assure you that your data will be used to improve the project.
		Just prior to the group activities for each level is a page of "Notes to the Leader." Be sure to read these before beginning the project.
		The rest of the guide contains "Instructions for Group Activities." But, before you receive those sections, it is time to get acquainted with the member's manual.
10-15 min.	Member's manuals	(Let members get up and come to you for their copy of the Level IV Manual.)
		Explain that again you will walk them through a manual. Request that they turn to the inside cover. Point out the "Note to Parent." Families are a key to the success of 4-H members. They need to be informed about the project and progress of their 4-H-er. The "Note" lists what can be learned in Level IV.

TIME	MATERIALS	DIALOGUE/OUTLINE

On the next page, "CC" is seen welcoming the member to the project on behalf of the Developmental Committee.

The "Introduction" follows. Here "CC" explains what the project is about, how the manual is organized (into BYTES, that is computer language for part or unit), and what can be learned. The Program (project) starts BYTE ONE. In all levels there are five (5) BYTES, each building on the other. Together they cover the four areas of concern and objectives on which the project is based.

Each BYTE has a name, written in calculator-style lettering. Key ideas and terms are also in calculator-style lettering or capital letters to bring attention.

The question/answer technique is used to hold attention. When a question is asked, "Input" is made into the calculator. The answer comes in the form of "Output" on computer print-out paper.

Information to be learned is thus covered in 1 to 3 pages. Drawings are used liberally to hold attention, particularly in the beginning manuals.

Every BYTE has a list of activities from which the member is to choose at least <u>two</u> of the three possibilities. The choosing process is an important part of the project. The checking of which activity to do and which was done is also a part of the learning process.

A variety of activities is included. Not all members learn alike or are interested in the same things. Thus, opportunities for creating something, reading, writing, shopping, and talking are given. Members sometimes work alone, sometimes with others--particularly family members. Sometimes the activity is self-contained in the manual. Other times, the member needs to

TIME	MATERIALS	DIALOGUE/OUTLINE
		work outside the manual. Activities are included to increase competence in knowledge, skills, and attitudes. Or in other words, to increase ability to think, do, and feel.
		Flip through the rest of the manual. Look at the BYTE titles, activities, and illustrations. (Allow 3 to 5 minutes for viewing.)
		The "End of the Program" includes space for members to record what they learned from the project. Also, there is a place for parents to write about their child's progress. Two copies are included: one for the member to keep and one for you to turn in to your county agent. The information from these forms will help us improve the project.
		On the inside of the back cover are a few suggestions for exhibits, demonstrations, and illustrated talks.
	Handout instructions for group activities from Leader's Guide	So, that is the Member's Manual, Level IV. Let us look at the instructions for group activities from the Leader's Guide. (Hand out.)
		While a 4-H member can be enrolled in the project and use the manual alone, group activities will enhance the learning. Thus, a complete guide to group activities for each BYTE is given.
		Note that objectives start each BYTE's instructions. Objectives tell you what is to be learned. A leader needs to read and understand the objectives before leading each study.
		Two to five activities are given next. Each one contains lists of what to do or get before the meeting and what to do or say as the activity is done. We will be doing several of these today, so more about activities later.
		"Points to Emphasize" concludes each BYTE. Be sure these points have been explained during the study. These points could also be reviewed at the next meeting to reinforce learning.

TIME	MATERIALS	DIALOGUE/OUTLINE
		Now, to get you better acquainted and more comfortable with the activities and to get you more actively involved today, I'm going to lead you during most of the remaining time through some of these activities. You will be trying "active," "somewhat active," and "very active" experiences. You will need to pretend you are 12, 13, or 14 years old and join in the fun.
		From Level IV, we will try to do one activity from each BYTE. Next, I will pass out the manual for Level V, where we will do an entire lesson. As time permits, we will close with a few activities from Level VI. We will try to keep some time for questions and comments at the end.
		Before we begin, let us take a short break.

Set Up Exhibit

Call members to seats. Point out exhibit. Explain that _____ are available in your district for county use. Two hundred copies of the brochure "CC" handouts are also available for each county. The purpose of the exhibit is to recruit members and leaders. The committee urges each county to work with the district 4-H agent to schedule the exhibit for this year's fairs, workshops, county or club meetings, or other special events.

PART IV: GROUP ACTIVITIES

MATERIALS NEEDED	ACTIVITY	KIND (A, SA, VA)
Attendees use Member's Manual (p. 3) Pencils	Manual IV BYTE 1	Me--A Consumer (p. 37L) SA

MATERIALS NEEDED	ACTIVITY	KIND (A, SA, VA)
Catalogs, newspapers, and magazines; 5 sheets of paper per person, pencils, scissors, glue, and felt-tip pens	BYTE 1	I wanna getta trading time (p. 37L) A
Poster paper		Waste not, want not (p, 38L) SA
Pennies for each member	BYTE 2	Penny on the nose (p. 38L) VA
Cards for each member	BYTE 3	Money matters (p. 38L) VA
		Choices, choices (p. 39L) SA
Handout Member's Manual Level V and corresponding Leader's Guide. Allow a few minutes for browsing	Manual V	Note: You may want to select 5 persons to represent members. Then teach the entire BYTE (lesson) in front of the rest of the attendees. Remember, you are modeling.
	BYTE 1	Close encounters of the consuming kind (p. 44L) SA
Paper and pen		Waste and want (p. 44L) SA
(Walk through this activity)		TV Guide (p. 33L) SA
		(Skip "Show Me Safety.") Be sure to cover points to emphasize (pp. 35-36)
Cookies--two kinds Napkins		Choosy cookie consumers (p. 27L) SA
Filmstrip and tape	BYTE 3	Weasel words (p. 47L) SA
Magazines, newspapers, brochures		Weasel hunt (p. 47L) SA
Pencils and paper		Write an ad (p. 47L) SA
Secrets on slips of paper	BYTE 4	Secret search (p. 47L) VA
(Walk through this activity)		Shopping spree (p. 48L) SA
Slides and tape		
3 "Personality bags"	Manual VI BYTE 1	It's in the Bag (p. 49L) SA

MATERIALS NEEDED	ACTIVITY	KIND (A, SA, VA)
	BYTE 2	Money . . . Money . . . Money (p. 50L) SA
		Money makes more money (p. 50L) SA
Money Game Board (found in Leader's Guide)		Money maze game (p. 51L) SA
Paper, pencils, crayolas, felt tip markers, etc.	BYTE 3	Create an ad (p. 63L) SA

Concluding Remarks:

1. Remember, as a leader, your goal is to help each member learn to make decisions. You should never give solutions--there is no right or wrong answer. Support their decisions.
2. Be sure to review the points to emphasize and make sure your members understand the points.

PART V: CLOSING

TIME	MATERIALS	DIALOGUE/OUTLINE
3-5 min.	Cards	A. Pass out cards. Tell attendees to fill out as follows: 1. From this session, I learned ________ ________________________________ 2. As a result of this session, I plan to ____________________ Name ____________________
	Envelope	Collect cards. Explain that this activity helps them to focus on what was learned and helps us too (put in envelope).
10 min.		B. Ask participants if they have any questions or comments they want to share.

TIME	MATERIALS	DIALOGUE/OUTLINE
		C. Close by challenging each person to become a CALCULATING CONSUMER and to help others FOCUS on CONSUMER EDUCATION--a project for the '80's.

APPENDIX G

CALCULATING CONSUMER PROJECT OUTLINE

Calculating Consumer Outline of Project

All experiences in this project are planned to increase the skills, knowledge, and attitudes in four areas of consumer concerns:

•the consumer as an individual

•the consumer as a member of society

•the consumer in the marketplace

•the consumer's rights and responsibilities.

At the conclusion of the Calculating Consumer 4-H Consumer Education Project, members should reach the following goals:

1. To understand and be able to relate how personal values, goals, and available resources affect consumer behavior.

2. To understand how social, economic, and political systems affect consumers and the effect of consumers on these systems.

3. To understand and use management and economic principles when making consumer decisions between alternative goods and services.

4. To understand rights and responsibilities of the consumer, business, and government, and to act responsibly as a consumer.

Experiences have been planned that will help members reach those goals. These experiences have been arranged to build on each other. As members continue through the levels, they should increasingly become more skilled and knowledgeable. Changes should occur as attitudes are affected by the experiences of the members.

The learning experiences in each manual could be done by a member alone. Most experiences will be enhanced, however, if done in a group. For every section of each manual, there are supplemental activities. Use these and others you create or discover to explain each member's exposure to consumer education.

VITA

Shirley W. Hastings

Candidate for the Degree of

Doctor of Philosophy

Thesis: 4-H CALCULATING CONSUMER PROJECT: ITS EFFECT ON MEMBERS' KNOWLEDGE, ATTITUDE, AND BEHAVIOR

Major Field: Home Economics--Education and Community Services

Biographical:

Personal Data: Born in Altus, Oklahoma, March 27, 1949, the daughter of A. R. and Ardella Welch. Married to C. Rod Hastings on May 22, 1971. They have one son, William Brent, age 7 months.

Education: Graduated from Duke High School, Duke, Oklahoma, in May, 1967; received the Bachelor of Science degree in Home Economics from Oklahoma State University in May, 1971; received the the Master of Science degree from Oklahoma State University in May, 1979; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in December, 1985.

Professional Experience: Extension Home Economist, Cooperative Extension Service, Sandoval County, New Mexico State University, August, 1971, to September, 1972; Extension Agent, 4-H, Denver, Colorado, Cooperative Extension Service, Colorado State University, January, 1973, to December, 1974; Free-Lance Home Economist, Oklahoma City, Oklahoma, January, 1975, to December, 1975; Extension Home Economist, Logan County, Cooperative Extension Service, Oklahoma State University, December, 1975, to June, 1977; Assistant Professor and 4-H Program Specialist, Oklahoma State University, June, 1977, to July, 1985; Youth Development Specialist, Mississippi State University, Starkville, Mississippi, August, 1985, to present.

Professional Organizations: National Association of Extension 4-H Agents, Mississippi Association of Extension 4-H Agents, American Home Economics Association, Mississippi Home Economics Association, Phi Upsilon Omicron, Omicron Nu, American Association of University Women.