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ABSTRACT

Existing data are reviewed and synthesized that speak to the extent to which Consumer and Homemaking Education (C&HE) programs at secondary and postsecondary levels contribute to student knowledge, attitudes, and behavior. Differences in program design that were found in the research literature are described before findings about effectiveness of C&HE programs are reported. These findings are grouped according to their impact on learner's knowledge, learner's attitudes, student perceptions of usefulness of C&HE courses, and impact on learner's behavior. Findings are reported that suggest that C&HE programs are effective, although many of the studies cited tended not to be widely generalizable. The second part of this report discusses research design for better effectiveness evaluation. Some alternatives to traditional experimental research designs are reviewed, including naturalistic inquiry, modus operandi, goal-free evaluation, regression discontinuity analysis, and goal attainment scaling. These other suggestions for sound research designs are discussed: avoidance of errors and limitations, establishment of test instrument/evaluation measure reliability and validity, and planning for replication. To illustrate appropriate and inappropriate methodology and assumptions, Mental Health, Head Start, and Employment and Training Programs evaluation research studies are summarized. Some research in progress is also described. A bibliography is appended. (YLB)

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The Effectiveness of Consumer and Homemaking Education: A Review and Synthesis of Extant Data

Co-authored

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PREFACE

The Education Amendments of 1976 (PL 94-482) charged the National Institute of Education (NIE) with the responsibility for undertaking "a thorough evaluation and study of vocational education programs, including such programs conducted by the states and such programs conducted under the Vocational Education Act of 1963..." The mandate specifically stated that the study shall include a review of evaluation of the effectiveness of programs funded under the Consumer and Homemaking Education (C&HE) provisions of law.

Three major activities were initiated relative to this mandate. First the NIE commissioned leaders in C&HE to prepare a series of position papers. These papers served to provide perspectives for conceptualizing a framework for the study of C&HE programs. Three of the position papers were published in The Planning Papers in Consumer and Homemaking Education Programs. Vocational Education Study, Publication No. 2, April 1979.

Second, a study was designed to determine who has been served by C&HE (i.e., how many students were enrolled and in what programs; and, to the extent possible, effort would be make to identify the content of the courses offered). This study was called the Responsiveness Study.

Third, a study was designed to determine the impact of C&HE programs on learners. The design for this study called for the review and synthesis of existing data that spoke to the extent to which C&HE programs contributed to student knowledge, attitudes, and behavior in the C&HE content areas identified in the legislation.

OVERVIEW OF CONSUMER AND HOMEMAKING EDUCATION

History

Consumer and Homemaking Education is an outgrowth of the home economics movement championed by Ellen H. Richards in the latter part of the nineteenth century and the early part of the twentieth century. The major thrust of the early home economics movement was to campaign for safe and sanitary water and food supplies for human beings, to address the survival skills, and the other needs of individuals and families.

Purpose of C&HE

The major purpose of federally supported programs of Consumer and Homemaking Education today is identified in the Vocational Education Act of 1963 and the Vocational Amendments of 1976 which specify that Consumer and Homemaking funds may be used for six program areas:

Consumer education
Food and nutrition
Family living and parenthood education
Child development and guidance
Housing and home management
Clothing and textiles

These purposes are an expansion of the objectives of the original movement but encompass the original objectives of home economics.

Home Economics was one of the vocational programs given impetus by the funding of the Smith-Hughes Act of 1917. The Smith-Hughes Act had as a major purpose to provide education of less than College graduates in Agriculture, Industrial Education and Home Economics. A series of subsequent acts (George-Reed Act of 1929, George-Ellezy Act of 1934, George-Dean Act of 1935, Geoge Barden Act of 1946, Vocational Act of 1963, Vocational Amendments of 1968, and the Vocational Amendments of 1976) have conti ued to provide funding for Home Economics, later called Consumer and Homemaking Education (C&HE) programs. The continuous funding of the C&HE programs since 1917 acknowledges the recognition by the Congress of this program.

With the Vocational Education Act of 1963, a provision was established to encourage states to develop occupational home economics-related programs. This was accomplished by authorizing the distribution of 15 percent of each state's C&HE monies for occupational home economics programs. This stipulation implied that the Congress recognized the need for workers trained in home economics related occupations, as well as the need to prepare people for their roles as consumers and homemakers.

The Vocational Education Act of 1963 was amended in 1968 and 1976. The amendments provided grants to states for the purpose of assisting them in conducting C&HE programs. The 1976 amendments state that the grants under subpart 5, Section 150 are to be used in part "for educational programs, services, and activities at all educational levels for the occupations of homemaking.

States have some discretion over their C&HE programs in order to meet the needs of the people in their state. The program is presented in the State Plan for Vocational Education; when the State Plan is accepted, the state may offer their proposed program. Therefore, while the basic thrust of the C&HE program is similar from state to state, some elements of the C&HE program are unique to each state. Conditions for program flexibility are inherent in the legislation. The opportunity to develop programs that meet the unique needs of a state may well be one of the strongest aspects of the C&HE programs, and simultaneously, the aspect that makes a rigorous national effectiveness evaluation study difficult, if not impossible.

PART I

Consumer and Homemaking Education Effectiveness Study

Introduction

The primary purpose of this paper is to provide information on the effectiveness of Cnsumer and Homemaking Education Programs at the secondary and post secondary levels. To achieve this purpose the authors reviewed available literature for information about the relationship between instruction in Consumer and Homemaking Education programs and changes in learners' knowledge, attitude, and behavior.

This C&HE Effectiveness study report is based on extant data that were available to the authors in the form of research studies and/or reports. Much of the research reported in this paper is evaluation research. "Evaluation research is concerned with finding out how well action programs work" (Weiss, 1972, p. 3-4).

The criteria used for selecting studies and/or reports were that they assessed the knowledge, attitudes, and/or behaviors achieved by learners' of (1) one or more of the content areas of consumer and homemaking programs, (2) populations that include handicapped, disadvantaged, and/or regular students, (3) secondary, post secondary, or adult level students, and (4) the study was undertaken and completed in the past ten years. These were to be studies of C&HE programs that were fully or partially supported with federal C&HE funds or programs that had vocational approval in states that supported only exemplary programs.

An extensive search was conducted to determine the existing effectiveness research. This included a search of ERIC and DATRIX and an extensive mail solicitation. Lettrs were sent to State Supervisors of Vocational Consumer and Homemaking Education in the fifty states and to units (colleges, schools, or departments) of Home Economics that have graduate programs (at least at the Master's level) requesting that information about or copies of all existing evaluation studies and/or reports of an effectiveness nature be forwarded to a central location for review by the consultants. Copies of the letters to state supervisors and teacher educators of C&HE are included in Appendix A. Further requests for help in identifying studies were made at four national meetings attended by state supervisors, teacher educators, and researchers. These include AVA, 1979; AHEA, 1979, 1980; and, the U.S. Department of Education sponsored Home Economics Education Conference, 1980.

The persons who responded sent masses of materials; however, careful review of these materials revealed that very little research that speaks to the effectiveness of C&HE programs has been conducted. Persons who replied to the requests identified eighty-two (82) studies, reports and/or developmental projects. All of them were reviewed and forty-six (46) are cited in this report.

Researchers have conducted both formal and informal evaluations of Consumer and Homemaking Programs. Formal evaluation studies are characterized by their utilization of questionnaires, structured observations, controlled comparisons, and standardized testing of students. Informal evaluations are characterized by their use of casual observation, implicit goals, intuitive norms, and subjective judgment (Stake, 1972).

In this report, conclusions about the effectiveness of Consumer and Homemaking Programs will be drawn from studies with learner outcomes as a research variable. Some of the findings cited in this report may be generalizable to other C&HE programs; however, the design utilized in many of the studies renders the findings applicable only to the particular learners who were studied.

Consumer and Homemaking Program Descriptions

The Education Amendments of 1976 specify that Consumer and Homemaking Education funds may be used for six program areas:

Consumer education
Food and nutrition
Family living and parenthood education
Child development and guidance
Housing and home management
Clothing and textiles

Educators were directed to design C&HE programs to encourage participation of both males and females in preparing for a combination of roles for homemakers and wage earners. Also, the content of the programs was to reflect current societal needs.

The phrase "C&HE Programs" conveys to some the image of one basic instructional program that is duplicated in local education agencies across the fifty states. This is certainly a misconception. The programs are reportedly designed to meet the needs of the learners; therfore, each one tends to have some unique features. Conditions for program flexibility are inherent in the legislation. Programs differ according to the following: (1) emphasis placed on the six-program areas; (2) the age, background, geographic location, ability, interest, aptitude, and grade level of the learners; (3) the amount of financial, community, educational resources and facilities available; and (4) the way in which the schools are organized (e.g., elective or required courses, length of class periods, frequency of class meeting, and the number and types of C&HE courses offered). For example, Sand (1980) found that the program offered in the school that students attended in Iowa was related to both their knowledge and attitudes toward parenting. The philosophical orientation of program planners is reflected in C&HE programs.

Many states have identified extensive lists of objectives and/or competencies to be achieved through these programs. The V-TECS task lists, which were developed by the Vocational Technical Consortium of States, is an example. Such lists generally reflect the knowledge, skills, and affective orientation needed to perform effectively in consumer and homemaking roles. Monts and Barkley (1978) conducted a state-wide study in Arizona to identify empirically the essential living skills perceived as important by men and women in their roles as family members, individuals, and employees. The researchers noted that the skills identified in their study provide a sound basis for program development. Abt et al. (1978) identified and analyzed the tasks performed by homemakers in Colorado. These can also be used as a basis for program development. Such data are available or being collected for many states and can also be used as bases for formulating evaluation research instruments. The following information provides some insight into the nature of C&HE programs in several states.

Irvine (1976) surveyed home economics teachers in Utah to determine the status of consumer education in that state. She concluded that consumer education was an integral part of the homemaking curriculum in Utah. Teachers reported that consumer education was four times more likley to be integrated throughout the C&HE curriculum than to be taught as a separate course. The consumer education content taught most frequently was in this order:

Purchaser of food and clothing
Consumer decision making
Consumer information
Financial management

Irvine found that more instructional time was devoted to the teaching of consumer education at the high school than the junior high level. Fults (1979) and Irvine reported that students and former students believe consumer content related to family financial decision making is more relevant to high school than junior high students.

Uhl (1970) found in a national survey that 97 percent of the 280 senior and junior-senior high schools in his sample reported offering one or more home economics courses that included consumer education content. These courses, he found, were based on content related to the consumer in the marketplace and the consumption of food, clothing and soft goods.

A sample of home economics teachers in Florida indicated that their consumer education classes included content on budgeting, banking, credit, governmental agencies, guarantees and warranties, home and apartment rental and ownership, insurance, law, medicine, motor vehicles, professional services, savings, securities, and taxes. Even though emphasis was given to all the domains of education in Florida, the teachers reported that for consumer education, cognitive objectives were emphasized more than affective or psychomotor (Cogle, 1977).

Wilkosz (1972) studied secondary consumer homemaking programs in Minnesota to determine whether the instructional content was: consistent with the requirements established in the 1968 amendments; provided a state required general education component to foster creative thinking; and, related to the needs, attitudes and problems of the students. Data were collected by mailed questionnaires and through selected on-site observations. The findings revealed that food and nutrition content received the greatest instructional emphasis. Child development and family relationships followed closely in emphasis. Content in child development focused on human growth and development, and in family relationships general aspects of growth and development related to personal and family life were the focus. The next areas of emphasis were consumer education (separate courses, not integrated content in other courses), housing, and clothing and textiles.

Waicis (1976) conducted a survey to determine how effective Part F, Section 150, and Subpart 5 funds have been in extending and improving consumer education in home economics consumer and homemaking programs. She also sought to determine the amount and orientation of consumer education being taught in Pennsylvania schools. The data provided by home economics teachers revealed that both programs tended to infuse consumer education topics and content into every area of home economics. She also found that funded programs tended to have a separate course in consumer education and non-funded programs did not.

Waicis found there was no difference in the orientation of course objectives between the 9th and/or 10th grade; however, there was a significant dfference between the 11th and/or 12th grade. In the upper grades, the objectives of funded programs were higher in both information-centered and process-centered orientation than the non-funded programs.

Although the Education Amendments of 1976 specify six program areas for C&HE, the amount of instructional time allocated to each of the areas may vary from one school district to another in some states and be fairly consistent across districts in others. Otto (1979) found that in Nevada, the percent of time spent in the various subject areas in high schools was as follows:

Clothing and textiles	29%
Food and nutrition	27%
General comprehensive home economics which includes all subject areas	15%

Child development and family living	11%
HERO and various work oriented units	10%
Housing and home furnishing	6%
Consumer and family economics	2%

In the junior high schools, Otto found the percent of time allocations:

General home economics	45%
Food and nutrition	27%
Clothing and textiles	20%
Housing and home furnishings	3%
Child development and family living	1%
And others	4%

The enrollment in the classes by sex at the senior high level was 85% female and 15% male. In the junior high schools in Nevada, there were almost equal numbers of males and females in grade 6, and about half as many males as females in grade 8. Overall in the junior high schools, 29% of the enrollment was male and 71% was female.

Some C&HE programs are designed specifically for adults. Arizona, Illinois, Ohio, Washington, New York, and Wisconsin were reported to have extensive networks of Consumer and Homemaking Programs for adults. For example, it was reported that the State of Wisconsin offered instruction through sixteen Vocational, Technical and Adult Education Districts to help meet the consumer and homemaking education needs of disadvantaged adults with low to marginal incomes in rural and urban areas. Instruction was being offered in consumer education, parenting, family living, home management, nutrition education, personal development, clothing, and housing.

Consumer and Homemaking Education activities in the State of Washington have been coordinated through the State Board for Community College Education. In 1976-77, projects included senior citizen programs, parent education programs, consumer and homemaking programs, and courses for handicapped homemakers.

In 1979, the State of New York had thirty-one C&HE programs for adults. A major objective for these programs was to help people in economically depressed areas improve their consumer and homemaking skills. The programs were offered in community settings and there were some outreach C&HE programs in county jails, half-way houses, and day care centers for handicapped adults..

In fiscal year 1978, 1,044,108 student hours were spent in the adult programs in New York. Unduplicated enrollment figures showed 18,859 males, 64,589 females and 4,684 children participated in the programs. The greatest number of student hours were spent in home management and consumer education (209,718 student hours), followed by food and nutrition (168,867 student hours), family relationships and child development (152,092 student hours), and home furnishings (104,627 student hours). The enrollment in the programs in New York had increased over the years.

The Cooperative Extension Service network is used to provide consumer and homemaking content to low income adults in Illinois and several other states. The 1978-79 Annual Report of this program in Illinois showed that 13,309 persons had participated in the program. Though actual data were not supplied, the report indicated that the participants had achieved the program objective of improved management of money, time, and other resources.

Many C&HE programs are being offered to high school age students in non-school settings. Such programs are generally designed to meet a particular need of persons with multiple personal problems. Tennison (1978) reported that home economics programs in the Kansas City, Missouri School District have had a major impact toward meeting the needs of some urban youth. For example, it was reported that Missouri had C&HE outreach programs in a Juvenile Detention Center and in a Center for School Age Parents. The program in the Juvenile Detention Center focused on the development of personal living skills and the enhancement of students' self concepts. The Center for School Age Parents provided instruction in parenting, consumer education, and family relations. These programs attempted to provide instruction to young people with special needs.

Programming to meet the needs of special student populations, disadvantaged, physically and mentally handicapped, and socially maladjusted, has long been emphasized in C&HE. This charge was also stated in the 1976 amendments.

Quantitative and Qualitative Measures of Effectiveness

Research findings about the effectiveness of C&HE programs will be reported according to the impact on the learners' knowledge, attitude, and behavior. Some studies will overlap into at least two of the categories and will be mentioned in each section of the report.

Impact on Knowledge

White (1980) measured student achievement in a pilot (C&HE) course. The course, Adult Roles and Functions (ARF) was taught in high schools throughout the state of West Virginia in 1978-79.

She used a one group pretest-posttest design. The research instrument consisted of 100 items. Ninety-three items were based on the competencies specified in the curriculum. It had a reliability coefficient of .913 according to the Kuder-Richardson 20 formula, a reliability coefficient of .896 according to the Kuder-Richardson 21 formula, and a difficulty level of 59 percent.

Data were collected from 353 students throughout the state. Sixty-five percent of the subjects were female and 35 percent were male; about

95 percent were juniors and seniors; 78 percent were 17 or 18 years of age; and 90 percent reported that their grade point average was 2.5 (the author did not report the GPA scale) or above.

The subjects' achievement scores were determined by calculating the difference between the pretest and posttest means. A t statistic was used to determine the level of significance. The achievement scores on the total instrument were significant at the .001 level. The instrument consisted of items related to the following eight subsections of course content:

Introduction
Family relations
Parenting
Housing
Nutrition
Careers
Consumer education
Home management

The students' achievement scores on each of the subsections were significant at the .0001 level. The analysis revealed that grade point average and previous home economics experience had little effect on the level of achievement of students enrolled in the ARF courses.

Miksis (1978), Hutchins (1970), and Harrison (1970) used the same instruments to collect data in three separate studies relative to the impact of C&HE knowledge on students' self concept, marital role expectation, and understanding of behaviors of children and behaviors of family members. Their data consisted of scores on Leary's Interpersonal Checklist, a measure of self concept; the Dunn Marital Role Expectation Inventory (DMREI), a measure of marital role expectancy in seven areas:

Authority
Homemaking
Child care
Personal characteristics
Social participation
Education
Employment and support

The Film Test for Understanding Behavior (FUB) is a measure of behavioral understanding. The FUB has three subscales:

Knowledge
Guidance
Sensitivity

The subjects in these three studies were enrolled in high school C&HE classes. Hutchins used a control group that was also an intact group.

Miksis (1978) studied students' understanding of children's behavior and students perceptions of their marriage role expectations, self concept and ideal marriage partners. A total of 57 sophomore, junior, and senior high students participated in the study. They were all enrolled in a course in child development that was to be taught for a full academic year. The subjects constituted three treatment groups:

Group I	(N = 28)	had completed one term
Group II	(N = 16)	had completed two terms
Group III	(N = 13)	had completed three terms

The child development class consisted of three types of student involvement. They were involved in (1) formal study in the classroom, (2) regularly scheduled observations of children with some opportunity to practice interpreting the observed behavior of children, and (3) making practical application of theory and guidance principles within a preschool laboratory.

All the students had significant (.05) increases in the total posttest scores on understanding the behavior of young children. The scores on the sensitivity subscale of the FUB were significant at the .01 level. The students in Group II had the greatest change in scores, followed by Group I and then Group III. Group III had the highest pretest scores.

Although the following findings were not significant, the pretest and posttest data showed that students perceived themselves to be more loving, their ideal mates to be less dominant, and their marital roles more egalitarian.

Hutchins (1970) used experimental and control groups to assess whether change occurred in high school students' self concept, marital role expectations, and behavioral understanding after taking a course in family life education. Data were collected from 106 male and female, 11th and 12th grade students. The fifty-three persons in the experimental group and the fifty-three persons in the control group were matched according to age, sex, socioeconomic status, and grade point level. Hutchins reported that the experimental group experienced a significant change at the .05 level in marriage role expectations. They became less authoritarian and more egalitarian. The males in the experimental group had significant achievement (.05) in their understanding of principles on the guidance subscale. There was no significant change in student self concept as a result of participating in the course.

The study by Harrison (1970) was designed to assess changes in eighteen 10th, 11th, and 12th grade students during their enrollment in a high school child development course. The course involved classroom study of normal growth and development patterns of young children and participation in a child observation center. There were significant increases of mean scores on the FUB which was used to measure understanding of children's behavior. The subjects showed an increase in their understanding of the behavior of preschool children at the .05 level of significance. The subjects' marital role expectations became more egalitarian, though the change was not statistically significant. There were no significant changes in self concept as an outcome of the course.

Mumme (1974) conducted a study to determine whether the use of special teaching materials affected high school students' achievement. Mumme used an "innovative" strategy that consisted of a variety of action oriented activities and learning resources for a six week unit in child development. The achievement of 38 students who received the innovative instruction was compared with that of a control group of homemaking students who were not taught via these materials. An analysis of pretest and posttest scores showed that the experimental group had a gain in cognitive achievement that was significant at the .001 level. Mumme, who was the teacher for the experimental group, reported observed behavior of the students that was indicative of increased interest. For example, Mumme noted that students requested that they continue their study of young children after the allocated six week period and that some students volunteered to work with children outside the class.

Holt (1977) conducted a study to determine if commercially prepared units of teaching materials in child care would produce higher gains in student achievement than teacher prepared materials. The study used treatment, posttest, and follow-up design with three groups of home economics teachers. One group was provided commercial materials and trained for three days to use them. Another group attended a three day workshop and prepared materials specifically for their teaching situations. The third group was not given any training or materials. These teachers were asked to use their normal methods and materials. Achievement of the students of the three teachers was assessed immediately after instruction and again one year later. The data indicated that students of teachers who prepared materials specifically for their situations evidenced greater immediate and long-term achievement than students of teachers in the other two groups.

Shaw (1972) conducted a study to determine whether or not students' perceptions of their understanding of concepts in home and family living changed after receiving instruction on those concepts. A 115 item Likert type instrument which asked students to indicate the extent of their perceived understanding of the concepts in a home and family living course was administered to 64 junior and senior high school students in Texas prior to and after instruction. The instrument yielded an overall score and scores on four subscales: dating, marriage, parenthood, and families.

The difference between the pretest and posttest overall mean scores was not significant. However, the mean posttest scores on two subscales were significantly greater than the pretest scores.. The subscale score on dating was greater at the 0.5 level and the score on understanding of self and families was greater at the .01 level of significance.

Consumer and Homemaking Education Programs in Iowa are being evaluated by persons in the Department of Home Economics at Iowa State University in cooperation with the Iowa Department of Public Instruction. This effort started in the fall of 1977.. Three of the studies which focus on the impact of C&HE programs on students and former students are included in this report.

These studies are by Sand (1980), Crawford (1980), McClelland (1980), and Harder (1979). Harder and Crawford evaluated consumer education courses. McClelland and Sand evaluated parent education courses. These researchers encountered some difficulty in identifying students for control groups who had no instruction in the areas they were studying. Many of the persons in the control groups had instruction in C&HE courses in junior high school and/or 4-H Clubs even though they were not enrolled in the courses being studied.

Crawford (1980) assessed the impact of instruction in consumer education on a sample of 87 high school seniors who had been enrolled in three or more semesters of homemaking classes. The control group consisted of 64 students who had not studied C&HE in high school. The two groups of students were comparable in socioeconomic status and grade point average. The research instruments were based on the Iowa Guide for Teaching Management and Consumer Education.

A Consumer Education Inventory (CEI) which was designed to collect data on student background, knowledge, attitude, and intent was administered to all subjects by their classroom teachers in May, 1979. The Consumer Education Interview Schedule (CEIS) which was designed to determine the students' consumer responsibility and practice after graduation and their perceptions of and recommendations for program outcomes was administered to 80 former homemaking and 47 non-homemaking students.

The analysis of data revealed no difference in the consumer education knowledge of the two groups. Almost all of the students (93%) recommended the use of homemaking courses to teach high school students consumer education. The two areas where instruction was most frequently recommended were planning/budgeting for spending money and comparison shopping. Homemaking students indicated that consumer education courses had contributed to increased self awareness, increased management skills, and clarification/development of personal values.

Harder (1980) collected data from 109 high school students in Iowa on the effectiveness of consumer education courses in helping students achieve specific competencies. She developed and collected data via two instruments that were based on the content areas in the Iowa Guide for

Teaching Management and Consumer Education. Using the Kuder-Richardson Formula 20, the research instruments, Form A and Form B, had estimated reliability scores of .78 and .85 respectively.

In the schools studied, consumer education content was taught in home economics, economics, business, and social studies courses. Harder found significant (.05) correlations between scores on both tests and enrollment in child development and business education. Significant (.05) correlations existed between enrollment in business education, child development, clothing and textiles, and foods and nutrition, and scores on test Form A. On test Form B, significant correlations existed between test scores and enrollment in business education, comprehensive home economics courses, and child development.

McClelland (1980) assessed the impact of parenthood education courses on a sample of 15 former C&HE students. The control group was composed of 11 former student who had not received instruction in parenthood education. Each subject had a baby 12 to 24 months of age.

The instruments used to collect data in this study were the Rating Scale for Parenting Behavior (RSPB), the Parent Behaviors Interview (PBI) and the Iowa Parent Behavior Inventory (IPBI). The RSPB was designed to assess the parent's management of the child's physical environment and parent's interaction with the child. It has an estimated inter-rater reliability of .70 and an estimated intra-rater reliability range of .83 to .98. The PBI was a semi-structured interview schedule which focused on the parent's behaviors and the reasons given for them. The IPBI instructed parents to indicate the degree to which behavior statements were typical of themselves. It had a reliabilty estimate for the six factors on the inventory of .56 to .81.

McClelland found that on the RSPB, both groups had mean scores at or above the level judged adequate for parenting. On the PBI, the former students' had three mean scores that were below the level judged adequate in this study for parenting, and the control group had seven mean scores below the adequate level.

Sand (1980) developed and administered a Parenthood Test to 455 students who were enrolled in 10 different high schools in Iowa. The Parenthood test consisted of a knowledge section which had an estimated reliability of .84 using the Kuder-Richardson Formula 20 and an attitudinal section.

The experimental group in this study consisted of 268 students who had taken a semester course in child development. The comparison group consisted of 187 who were enrolled in other C&HE courses.

Data were analyzed to determine the effect of the following variables on students' parenting knowledge and attitudes:

Sex
Grade level
School
Child development enrollment
Previous home economics classes
Personal parenting plans
Amount of experience with children
Type of experience with children

Sand found significant differences in the knowledge scores between males and females, between grade levels, between schools, and between students who had taken a comprehensive home economics course and those who had not.

Lee (1972) emphasized the need for future homemakers to understand and be able to use metric measurements. She conducted a study to determine the effectiveness of teaching metrics in a comprehensive vocational home economics classroom through practical application in laboratory situations. The sample for this study consisted of twenty-eight high school juniors and seniors. Fourteen of the subjects were enrolled in the home economics program and formed the experimental group. Fourteen were not and were in the control group.

The home economics students acquired more knowledge about metric measurements than the control group. This finding was significant at the .005 level. There was no differences in the attitudes of the two groups of students toward the use of metric systems. The students in the experimental group were confident of their knowledge of the metric system. They also indicated a significantly higher level of confidence (.05) in their answers on the metric knowledge test.

The following three studies conducted by Spitze (1976), Davis (1974), and Schwartz (1973) measured the nutrition knowledge of high school students and high school graduates. The findings in the Spitze and Davis studies differ from the Schwartz study.

Spitze (1976) assessed the nutrition knowledge of 50 high school students in three intact classes who had studied nutrition for 8-10 class sessions via discovery learning techniques. Pretest and posttest data were collected to determine cognitive and affective change in the learners. Cognitive data were collected with a nutrition knowledge test developed by Spitze. The reliability of the nutrition knowledge test, as measured by the Kuder-Richardson Formula 20, was .88. It contained 311 true-false type items.

The difference between mean pretest and posttest scores on the nutrition knowledge test for the three classes was significant at the .001 level. The lowest mean score difference was reported for the one class that only met for 8 class sessions. There was no reported indication that ability levels of these students differed from the other subjects.

Davis (1974) compared the nutrition knowledge of ninety-four 9th grade students enrolled in home economics with non-home economics students. She found that the home economics students had more knowledge of nutrition than the non-home economics students. Spitze's and Davis' findings were not supported by Schwartz's (1973).

Schwartz (1973) conducted a study to determine the relationship between previous enrollment in home economics courses and present nutrition knowledge, attitude, and practices of high school graduates. Comparisons were made between graduates who were enrolled in courses with units in food, nutrition, and health, and those who were not enrolled in such courses.

Nutrition knowledge was measured by responses to a 30 item questionnaire. The questionnaire was mailed to 1,000 randomly selected graduates of 300 randomly selected high schools in Ohio that had C&HE programs. Completed questionnaires were returned from 313 (31.3%) of the graduates.

Schwartz found no relationship between nutrition knowledge and previous enrollment in home economics. She did find a significant relationship between nutrition knowledge and high cumulative grade point averages regardless of whether the former students had been enrolled in home economics.

Schwartz had a relativbly low response rate. This may have biased her findings. She did not report how the non-respondents differed from the respondents.

Stenner and Matson (1975) evaluated reimbursed Consumer and Homemaking Education programs in 128 school districts in Illinois. Illinois, at the time the study was conducted, funded only the C&HE programs that were offered to disadvantaged students. In order to receive reimbursement, the conditions in each of these school districts met at least one of the following criteria: unemployment in excess of six percent; number of persons receiving general assistance above 10 per-thousand; aid to dependent children of 60 or more per-thousand; or percent of family incomes below the national average of $5,400.

Student achievement in Consumer and Homemaking Education was assessed in fourteen areas:

Consumer in the marketplace
Money management
Consumer credit
Housing
Food
Transportation
Clothing
Health services
Recreation
Furnishings and appliances
Insurance
Savings and investments
Taxes
Consumer in society:

The Illinois Test of Consumer Knowledge (ITOCK), Forms A and B, with split half reliability scores of .92 and .86 respectively, were used to collect achievement data. The 14 areas listed above were subtests within ITOCK. Stenner and Matson reported that Form A contained test items that were less difficult than Form B.

The achievement scores of students who had taken Consumer and Homemaking Education were compared with those of students with no instruction in Consumer and Homemaking Education. On Form A, the experimental students scored significantly higher than control students on all the subtests. The highest scores attained on Form A were in the areas of consumer credit, housing, consumer in the marketplace, money management, food, and clothing. On Form B, the experimental students scored significantly higher than the control students on the consumer in the marketplace, consumer credit, housing, and insurance subtest.

Stenner and Matson found that student achievement in Consumer and Homemaking Education was significantly higher in classes where the following forms of instruction were used:

Resource Person
Debates
Student demonstrations
Multi-media
Team teaching
Field trips

Cogle (1977) administered two 50 item tests to assess the effectiveness of consumer education programs in home economics in secondary schools in Florida. The two tests (Test A and Test B) were designed to measure student achievement. Test A had a Kuder-Richardson reliability coefficient of .937 for the experimental group and .907 for the control group. Test B had a Kuder-Richardson reliability coefficient of .922 for the experimental group and .912 for the control group. Test items were based on the cognitive, affective and psychomotor learning objectives stated in the Florida Guide for Management and Family Economics.

The experimental group consisted of 457 students who had completed a course in consumer education and the control group of 1,110 students who were just beginning the course in consumer education. Cogle's data showed that students who had taken the semester course in consumer education obtained a higher mean score on the achievement tests than students who had not taken the course, however, this finding was not statistically significant. Cogle reported that some students in the control group had taken home economics courses that may have included consumer information though not the semester consumer education courses.

Sargent (1970) used programmed instructional units to teach consumer education content to high school students in a intact consumer education class and measured student achievement to determine if there were significant cognitive gains. The analysis of data from 25 students showed the difference between the mean scores of the pretest and posttest was significant at the .01 level. Sargen concluded that students' achievement was enhanced by the programmed instructional unit.

Smith (1974) designed and used an illustrated instructional module to teach consumer education to educable, mentally retarded students. The module was written on a low reading level and contained many drawings that illustrated the content. Thirty-eight students were pretested, taught via the special module, and posttested after instruction had taken place. Data from students in the experimental group were compared to the pretest and posttest scores of a control group of students who had not used the modules in their instruction. Smith found that the experimental group had greater cognitive achievement than the control group. This finding was significant at the .01 level.

Kohlmann et al. (1977) studied the achievement of 24 mentally and/or physically handicapped students in high school consumer education classes in Iowa. The handicapped students had been mainstreamed into regular classes that enrolled 251 students. The students who were physically handicapped may have been of normal or above normal intelligence. There was no information reported on their abilities. The pretest and posttest achievement scores of all the handicapped students were compared with the scores of the other students in the classes. The results indicated that the mean achievement score of the handicapped students was near the class average.

Nelson and Jacoby (1973) studied the achievement of 108 randomly selected participants in programs in New York funded under Part F, Consumer and Homemaking Education of Title 1 of 1968 amendments to the Vocational Education Act. These programs were designed to serve low income adults and out of school youth by providing learning opportunities to meet the home economics related needs of individuals and families with special emphasis on consumer practices. Their findings showed that the participants' achievement of the program objectives, as reflected by the difference in their pretest and posttest scores, approached statistical significance. The greatest gains in knowledge were made in clothing and textiles, food and nutrition, and relationships of individual and family.

Impact on Attitudes

The research reported in this section describes the relationship between instruction of C&HE and students' feelings about self and/or their feelings about C&HE programs. A few of the studies were cited in the knowledge category also because the researchers studied both knowledge and attitudes of learners.

Sand (1980) found that students who had taken a course in child development indicated higher mean attitude scores on parenting concepts than a comparison group of students. She also found that the amount and type of experience that students had with children made a significant difference in their attitudes toward parenting. The more experience that students had, the more capable they felt about dealing with children.

Miksis (1978), Hutchins (1970), and Harrison (1970) all studied the relationship between C&HE content, self concept, and marital role expectations. Miksis' data revealed that the students' self concept did not change after studying child development; however, they did see themselves as being more loving and sensitive to the needs of children. Hutchins found students who studied family life had significant changes in their feelings about marital roles. There was a decrease in authoritarian role expectations and an increase in egalitarian role expectations. Harrison's findings were similar to Miksis' and Hutchins'.

Spitze used selected games and other techniques to teach nutrition to high school students. Data were collected via a 20 item opionnaire designed to measure students' attitudes about nutrition as a subject of study. Student responses showed a considerable positive shift in attitude on two items:

> "I think Nutrition is an exciting subject to study," and "I think Nutrition is a dull subject".

Greater numbers of student thought nutrition was exciting to study and fewer thought nutrition was a dull subject. There was no difference on the other items.

Schwartz collected data about affiliates toward food and nutrition from high school graduates. Persons who had been enrolled in home economics had significantly higher positive mean scores on a 30 item test of nutrition attitudes than graduates who had not been enrolled in home economics.

Cross' et al. (1971) studied the relationship between the effectiveness of full-time homemakers, homemakers who were full-time employees, and the extent of enrollment in home economics at the secondary level. The criterion measures for determining effectiveness of both groups of homemakers were developed, validated, and tested for reliability. The instruments were developed to determine the degree of confidence a homemaker had in performing tasks in comparison with other homemakers. Data were collected from 276 homemakers in Florida, Georgia, Kentucky, and South Carolina. Analysis of data revealed that their perceived effectiveness as homemakers at performing 116 specified homemaking tasks increased with the number of years they had been enrolled in home economics at the high school level. Full-time homemakers who had been enrolled for three years in high school home economics reported feeling more adequate at performing the tasks than homemakers with fewer years of instruction.

Little (1979) conducted a follow-up study of 1974 graduates from the home economics education programs in the high schools in Area VI of the Texas Vocational Homemaking Education Division. The participants in this study were identified through the records of their former teachers. Eighty-four questionnaires were mailed and only 22 were returned. They were asked among other things to identify the content they learned that had been of most value to them since graduation. The content that was reported to have the most value was how to dress, behave, and prepare forms when applying for a job; followed by improving relationships, money management, the management process, improving health practices and self concept; and discovering and improving personal strengths and weaknesses. Little found that the majority of the participants in this study indicated they would advise their own children to take courses designed to prepare them for the roles of homemaker and wage earner while in high school. Little had a very low number of questionnaires returned and this could have affected the findings. There was no report of how the respondents and non-respondents differed.

A report of 1973-74 follow-up survey of 2,714 (31% of the population) students who had studied consumer home economics in the secondary schools of Alabama revealed that 74% of these students had taken courses designed to prepare them for personal, home, and family living. Over 54% studied in these areas because they planned to use the knowledge in homemaking. More than 66% indicated they would take the same program if they had it to do over again (Drake and Davis, 1976).

Student Perceptions of Usefulness of C&HE Courses

Students are generally not required to enroll in courses offered in most C&HE programs in secondary schools. It may be appropiate to assume that one reason why students elect to take C&HE courses is because they think the course content will be useful to them in their present and/or future lives.

Drake and David (1976), in a study cited earlier, found that 67% of 2,714 students in their study reported that their decision to study C&HE was made independent of the influence of others. Sixty-nine percent of the subjects reported having some plans for utilizing the C&HE content.

Judgments about the importance and usefulness of course content are likely to be influenced by the real life experiences that former students encounter. When former students encounter situations in which the knowledge or skills learned can be applied, then perceptions of the importance or usefulness of the subject are likely to be increased.

Adomatis and Vanderhoff (1980) surveyed former C&HE students in Indiana to determine their perceptions about whether problem solving and decision making knowledge and skills were developed in C&HE programs. Data were collected via a demographic data questionnaire, an experience inventory, and a knowledge and skills inventory. The knowledge and skills inventory contained 64 items based on eight subject matter areas in the teaching resource guides used in Indiana. The experience inventory contained 95 problem situations which the former students may have encountered. They were asked to indicate the usefulness of C&HE content in solving the problems. The reliability scores for the instruments ranged from .829 to .956.

Questionnaires were mailed to persons who had graduated or left school between 1974-1978. Four hundred and fifty persons responded to the questionnaire. The researchers attempted to include randomly selected participants from 20 high schools (10%) in Indiana. The respondents represented 11 high schools.

The data revealed a positive relationship between the number of C&HE courses taken and the former students' perceptions of their knowledge and skills; and their usefulness in "real life" situations. This relationship was significant at the .001 level. Areas where the respondents felt they had the greatest amount of achievement in knowledge, skills, and problem solving abilities were nutrition and food, textiles and clothing, interpersonal relations and child development, and management of resources.

Hutcherson (1973) asked 176 eighth grade students in Pasadena, California, ages 12-15, a majority of whom had taken home economics in the 7th grade, to identify what they thought to be important content in the home economics subject areas. The students ordered the areas of importance as follows: child development (most interest in babysitting and understanding the growth and development of children); clothing, textiles, related arts (learning to sew and personal grooming); food and nutrition (cooking, solving family food problems and preparing quick, inexpensive, nutritious meals); family relationship (sharing home responsibilities and getting along with family members); home furnishings and equipment (making the home attractive, care and use of household equipment); and management of resources (planning for the use of time, energy and money).

Findlay (1976) asked a sample of 211 male and female former C&HE students in Utah who had been out of high school from 3-6 years to indicate their perception of the importance and current usefulness of homemaking subject areas. They were asked to respond regardless of whether they had studied in these areas themselves.

Ninety-two percent of the respondents perceived money management and budgeting as the most important areas. The next nine areas in order of the subjects' perceived importance were:

Child Development	88%
Family Relations	85%
Food Preparation	83%
Nutrition	80%
Home Living	78%
Home Management, Organization & Decision Making	76%
Child Development	74%
Family Health	73%

The rank order of the top ten courses according to their current usefulness according to persons who had taken them and the percent of respondents were as follows:

Food Preparation	89%	
Child Development	86%	
Clothing Construction	83%	
Nutrition	83%	
Money Management and Budgeting	83%	
Family Relationships	81%	
Home Living	79%	(A composite course including all home economics content areas)
Home Management, Organization & Decision Making	74%	
Family Health	68%	
Interior Decoration	58%	

More than sixty percent of the respondents indicated they would take more homemaking classes if it were possible to repeat their high school experience. Thirty-five percent of the respondents had at least one child and 3.2 percent had three or more children.

Rusdahl (1973) sent a questionnaire to 50 former high school students in Idaho who had studied home economics between 1964 and 1969. The former students indicated that their overall instruction in homemaking classes had been useful. The most useful course content was in the areas of food and nutrition, clothing and grooming, and family health, in that order.

Bokenkamp (1978) conducted a state-wide follow-up study of the 1973 high school graduates and school terminees from vocational consumer home economics programs in Nebraska. The respondents were asked to indicate the area in which their instruction had been most helpful to them. Those who responded reported they had instruction in the following:

Food and Nutrition	65%
Adult Living	53%
Clothing and Textiles	51%
Housing and Home Furnishings	34%
Home Management	24%
Consumer Education	20%

Sixty-six percent of the male respondents felt adult living was the most helpful to them. Twenty-one percent of Bokenkamp's respondents had taken Home Economics courses for six or more semesters.

Hudson (1974) conducted a study in Texas that was designed to determine the usefulness of competencies developed in high school home economics courses. The research subjects were 20 students and 30 graduates. Hudson also wanted to determine whether the high school students would rate the usefulness of the competencies different from the graduates who were homemakers. The subjects who had all taken two years of home economics reported that they had achieved most of the competencies planned for the courses and were satisfied with the curriculum. The students felt that four competencies were significantly more useful than did the graduates. These competencies were: participating in the decision making process; knowledge of child development careers and job opportunities; knowledge of health care job opportunities; and, the ability to identify stages of love in a variety of situations. The graduates indicated a higher mean score on the usefulness of their skill in food preparation than did the high school students.

The difference in the ratings of the graduates and the students in Hudson's study may be related to types of consumer and homemaking tasks that each group of subjects performed. For example, here are two comments made by respondents who were graduates that illustrate the difference because of experience:

> "I feel that the benefits I received in Home Economics and Family Living have definitely been helpful to me in my married life," and "Hardly a day goes by . . . that I don't use something I learned in Home Economics."

Arizona provided courses for adults in community colleges. The participants described those programs as being quite helpful. For example, Martin (1978) evaluated a consumer education project for low income senior citizens at Mesa Community College, Mesa, Arizona, and found that the participants considered the content they learned helpful. They reported that they shared the content with neighbors, friends, and family.

The Arizona State Department of Vocational Education and the community colleges jointly sponsored this Adult Family Living Education program. Its primary goal was to educate parents for effective family life through instruction in child development, family relationships, home management, consumer economics, nutrition, and communications skills. In 1978-79, 1,533 persons were enrolled in 89 parent education classes, some of the participants said: "I am a better wife and mother." I learned "how to feel comfortable as a parent" and "how to better organize myself and set realistic goals", "how to handle anger and cope with getting upset." When asked what learning was most important or useful to them, some parents reported, "how children develop," "teaching my child responsibility," "time management," "discipline," "problem solving techniques," and "nutrition."

The State of Ohio had eleven community-based Family Life Education Centers in 1978 (Annual Report, 1978). There were a total of 21,380 participants enrolled in the centers which was an increase of 154 persons over the previous year. The participants included 13,405 adults, 2,885 children, and 5,090 pre-school children who were enrolled in the nursery program.

Community social agencies in several large cities in Ohio requested that programs be conducted in the Family Life Education Centers for their clients. It was also reported that courts of law in Ohio tended to permit an increasing number of parents to retain custody of their children if they participated in the programs. As a result of the program, some participants reported gaining enough control over their personal lives so that they could become employed and involve themselves in community activities. Some participants reported they became interested in their living environments and purchased homes and/or worked to improve their residences.

A sense of the feelings of learners about the effectiveness of their education may be best conveyed in their own words. Such is the case, the authors believe, of the following testimony. The following letter was written by a former Consumer and Homemaking Education student in Oregon and provided to us by the State's Home Economics Specialist. His feelings may have been shared by students who did not express them as eloquently as he.

June 28, 1979

TO WHOM IT MAY CONCERN:

As a member of the class of 1972, I am writing in response to a request made by the Oregon State Department of Education concerning the effectiveness and benefit of the pilot course in Consumer Homemaking I was enrolled in.

I feel the Consumer Homemaking and Bachelor Homemaking course I took were both beneficial and informative. Since graduation I have lived on my own, married, and begun a family; I have purchased a car, appliances, and most recently a home; I have managed my energy, time and money -- all with the help of this background course in Consumer Homemaking.

I would like to see more courses directed at money management and Consumer Homemaking, as the information and skills continue to be so vital in today's world. We all, as consumers, have involvement with contracts for homes, cars, and personal goods and services. Without the background of Consumer Homemaking a family easily might not be able to cope.

Having been employed by U.S. National Bank I see a lot of young people starting out trying to establish credit and get over their head in debt. Because of not being able to cope they ruin not only their credit, but also their family relationships.

I certainly feel Home Economics and Consumer Homemaking are important.

A student in a class in Hampton, Virginia, described the value of her studying Consumer and Homemaking Education as follows:

The Values of Consumer and Homemaking to Me

Hi, I'm ________ in the ninth grade at Spratley Junior High in Hampton, Virginia. I feel Consumer and Homemaking has played an important role in my life in many ways.

First, Consumer and Homemaking has helped prepare me to cope, not only with things I will have to face in the future, but the present as well. Especially the unit in Cultural Development because it has made me be aware of the problems around me that in the past I have taken for granted. In this unit we studied different cultures, problems in families, problems with teenagers -- including dating, drugs, alcoholism, and pregnancy -- rape and sexual assault, divorce, the one-parent family, senior citizens, the childless couple, death and dying, and many other social problems. I really got involved in this unit because it made me realize how each one of these deals with me directly.

The unit in money management was also of great benefit to me. We found a job, filled out the application, had mock job interviews and drew a paycheck. Now on our own we had all the responsibilities that we thought we had always wanted. We were to pay all our bills, including rent, telephone, electricity, clothing, transportation and others, including a few unexpected bills. We all soon realized how important a strict budget is and found out how to really stretch our budgets. I made it and had a few dollars left.

In this unit we also studied about gyps and frauds, contracts and credit. This unit was helpful to me and one in which I plan to save all my notes!

When someone mentions Home Economics, we automatically think of cooking and sewing. We covered these units also.

I won't go into the clothing management unit too much. Sweing isn't my bag since I have little patience, but I do feel I benefited from the section on clothing selection, especially colors and designs appropriate for me.

The Foods and Nutrition unit was great fun and a learning experience as well. My family has enjoyed all my experimenting and I feel I have been a help to my mother in planning our meals and shopping. I come from a large family and we have problems getting the right nutrients, keeping our weight down and keeping the cost low. I feel Home Economics has helped me help my family in this respect.

All in all, Consumer and Homemaking has strengthened me in many ways that I, a homemaker of today, can pass along to others. I'm glad I took it for two years and hope I can fit it into my schedule in high school.

Impact on Behavior

The research cited in this section describes the relationship between C&HE programs and student behavior. The data collected in most of the studies are students' self reports of their behavior.

Lockhart (1978) compared the reported purchasing habits of adult students who had successfully completed at least one community college course in Consumer and Homemaking Education with adult students who had not taken such courses. Data collected via a thirty-three item purchasing habit inventory indicated a difference in the purchasing behavior of the two groups that was significant at the .05 level. She found that students' knowledge of consumer education was reflected in their reported consumer decisions related to the purchasing of goods and services.

Crawford (1980) compared the reported consumer practices of a group of homemakers who had studied consumer education with a group who had not. The two groups of homemakers reported having similar consumer responsibilities; however, they approached them differently. The former homemaking students were more likely to (1) consider the wear life, care, and fiber content of clothing prior to purchase; (2) consider sales and ads when shopping for food; and, (3) plan purchases costing $25.00 through $100.00 and consider special features of the store when the purchase was made.

Paulsen (1974) surveyed 54 former students to determine their use of the knowledge gained in a specific area of C&HE. Her subjects were persons who had studied clothing and textiles between 1969 and 1973. She studied the former students' use and knowledge of consumer information, clothing selection, fabric properties, and clothing construction and alteration. She found that respondents who had not learned how to manage the use of credit in high school reported using credit more frequently than those who had. Also former C&HE students did report utilizing their consumer knowledge in clothing selection in such ways as reading hangtags and labels. They also reported utilizing their clothing construction and alteration skills.

Dougherty (1977) collected self report and observation data on disadvantaged adults enrolled in C&HE programs in Wisconsin. The data revealed that some of the participants had improved family relationships, increased ability to manage resources, increased ability to secure and keep jobs, increased understanding and application of principles of child development, and increased positive feelings about themselves.

Schwartz (1973), in a study previously cited, found that high school graduates who were enrolled in C&HE courses reported significantly better nutrition practices than graduates who had not been enrolled in C&HE. Data on nutrition practices consisted of a three-day dietary recall and information on the subjects' use of nutrient supplements, use of fat and salt, and average weekly consumption of snack foods and pastries.

Mumme (1974) found that students volunteered to work with children outside of class after they had been involved in a six-week unit on child development. This was perceived as an indication of increased interest that influenced student behavior.

Summary

Are C&HE programs effective? What effect do C&HE programs have on learners' knowledge, attitudes and behavior?

Many of the studies do provide data that suggests that C&HE programs are effective, even though many of the studies cited in this report tend not to be widely generalizable and the findings in a few studies did not show that C&HE programs make a difference. The bulk of the research focused on specific C&HE courses and not total programs. The research findings are not conclusive and the limited generalizability is the result of one or more of the following:

1. The research subjects were often composed of intact groups enrolled in a school class who may not have been representative of the population of persons enrolled in C&HE.

2. Follow-up studies in which data were collected via mailed questionnaires had return rates of less than 50%. Non-respondents were not sampled and compared with the respondents.

3. The subjects who were students tended to have been enrolled in courses that were unique to a given school. There were wide variations in course content and instructional methods.

4. Descriptive research designs were frequently used. In such cases, control group data were not available for purposes of comparative analyses.

5. The lack of ability to control for the previous C&HE learning experience of the research subjects.

With these limitations in mind, the following is a summary of the findings on the effect of C&HE programs.

<u>Impact of C&HE Programs on Learners' Knowledge</u>. The studies cited in this section of the report showed that:

1. C&HE programs were related to positive achievement in nutrition education, child development, and consumer education.

2. There was a positive relationship between the amount of time spent in a course, the number of courses taken, and an increase in knowledge.

<u>Impact of C&HE Programs on Learners' Attitudes</u>. Studies that focused on the relationship between C&HE programs and learners' attitudes toward self and the value of their instruction revealed that:

1. Students in child development and family life education classes expected their marital roles to be more egalitarian.

2. Students in child development classes had increased awareness of and sensitivity to the needs of children.

3. Former C&HE students had positive feelings about the usefulness and importance of the program content.

4. There has been an increase in the voluntary attendance of adults in C&HE programs.

5. Students' attitudes about nutrition education as a course of study became more positive.

6. There was a positive relationship between the number of courses taken and feelings of adequacy in performing homemaking tasks.

<u>Impact of C&HE Programs on Learners' Behavior</u>. Studies of the relationships between C&HE programs and learners behavior found that:

1. Former C&HE students had better nutrition practices than non-C&HE graduates.

2. Students who had been instructed in the use of consumer credit reported using credit less often than students who had not had the instruction.

3. Former C&HE students reported using consumer knowledge to make consumer related decisions.

4. Adult C&HE students reported improved management of money and time.

5. Students in a child development class volunteered to work with children outside of class.

PART II

Research On Consumer and Homemaking Education

In order to answer the question, "How effective is C&HE?" additional research will be required. A review of the preceeding section of this paper will identify the need for research in C&HE. The limitations of the studies cited in the previous section provide the basis for the following list of basic recommendations:

1. Include a representative random sample.
2. Have geographic representation included in the studies.
3. Include some longitudinal designs.
4. Measure impact of the program on the learner.

Consumer and Homemaking Education research has been neglected during the development of projects of the past decades. Many of these projects have been to develop curriculum. Because research is expensive in time and money and very few funds have been invested in research of an evaluative nature, very little has been completed during the past decade as cited in the first section of this report.

As the value of research to determine and/or assess the worth of a program becomes more apparent because of emphasis on accountability, several states and professional organizations have launched research efforts to aid them in answering previously unanswered questions. Monies previously directed toward other research and development goals have begun to be used to determine the effectiveness of a program.

In summary, <u>more</u> broad-based and <u>better</u> quality research is needed in C&HE. The research that has been reported to the authors of this report as "underway" reflects that some of these needs are beginning to be addressed. Additional funding directed toward this type of research would enable a comprehensive approach not currently feasible.

Traditional Effectiveness Evaluation Design

The research designs that have been traditionally used to measure effectiveness include the pre-experimental, the experimental, and the quasi-experimental. Campbell and Stanley (1963) present a thorough discussion of each of these designs.

The most common design and the one open to the fewest threats to validity is the pretest-posttest control group experimental design. This design is frequently used to measure the growth of students enrolled in C&HE courses and to compare that growth to the growth of a control group that did not have the C&HE course. It is important to select a control group that is similar to the experimental group in ability, age, and other demographic variables.

Evaluation of educational programs for the purpose of determining the effectiveness of those programs can take different forms. The experimental research design is one of those forms. Other evaluations include forms such as process and product evaluation and formative and summative evaluation. Evaluators are continuously searching for additonal methods for assessing the worth of an activity, program, or course. Some of these alternative evaluation designs can be useful in assessing aspects of a program that are difficult to measure by traditional research designs. Some of the alternative designs thought to be useful are reviewed in the next section.

Emerging Effectiveness Evaluation Designs

There are some alternatives to experimental research designs that merit consideration for evaluation research. There will be pertinent data that will elude the rigor of the experimental research design since the "useful" vocational programs such as home economics include content based in both the disciplines of the physical sciences as well as the social sciences. A review of some of the methodologies researchers may want to consider to accompany the experimental research designs is presented in the following section.

Naturalistic Inquiry

According to McKinney (1978, 1) "naturalistic inquiry has evolved from ethnology and phenomenology." McKinney (1978, 4) asserts that "the 'ideal' experiment requires high constraints on the dependent and independent variables" . . . while in "the 'ideal' naturalistic inquiry the investigator does not manipulate the dependent or independent variables."

Some of the early work on naturalistic inquiry was done by Willems and Raush (1969) who define naturalistic inquiry as . . . "the investigation of phenomena within and in relation to their naturally occurring contexts." Willems and Raush (1969) explained that "the purely naturalistic study is one in which the investigation attempts to exercise no influence over the range of stimuli or the range of responses; it is the subject who selects and defines the repertoire of both stimuli and responses." Some of the early work on naturalistic inquiry has been done by Guba, who continues to publish on this method. Guba (1978) describes the difference between experimental and naturalistic inquiry by suggesting that:

> . . . a study can be characterized as experimental or naturalistic as a function of where it falls along two dimensions of manipulation by the investigator: the manipulation of stimuli, and the manipulation of response modes, or at least, the designation of which responses will be noted.

McCaslin (1978, 4) presented several reasons why naturalistic inquiry might be an appropriate mode of inquiry for effectiveness evaluation. Reasons considered most relevant are:

1. Naturalistic inquiry is a legitimate evaluation methodology in that it is structured, disciplined, systematic, comprehensive, and replicable.

2. Naturalistic inquiry recognizes the multiplicity of causes associated with given outcomes in vocational education.

3. Naturalistic inquiry evaluates vocational programs as they actually occur.

4. Naturalistic inquiry is not constrained to examining only those outcomes that are amenable to quantification.

5. Naturalistic inquiry can be individualized to meet the needs of diverse people.

It is only fair to report that Pucel (1978, 10) was critical of the degree of freedom permitted in naturalistic inquiry primarily due to the magnitude of the responsibility placed on the observer in relation to accuracy, reliability, and validity. He went on to say that while he believes naturalistic inquiry has a place in educational decision-making it "is not a reasonable substitute for research."

Naturalistic inquiry is a method of evaluation that could serve the "useful" vocational programs well because of the following reasons:

1. The researcher can allow the research to assess the multiplicity of causes associated with outcome.

2. It allows the researcher to evaluate programs as they naturally occur.

3. It permits assessment of outcomes difficult to quantify, (i.e., self concept, student motivation).

4. It can accommodate individualized assessment procedure that will allow for individual differences.

An interview schedule that would allow for the collection of data at the entry and exit interviews of the vocational students would be one way of using this evaluation method to provide data in addition to that gathered by quasi-experimental research methods.

Modus Operandi

Michael Scriven (1976) proposed a more extensive use of causal investigations known as the modus operandi (MO) method. This evaluation method is one where the results are acknowledged and a search is initiated for the cause of the given results. Perhaps many of the successes of the "useful" vocational programs are causal rather than predictive. The programs work with individuals who have unique needs and perhaps it is the ability of the teacher and the flexibility of the instructional program that allows the teacher to tailor the treatment to the need that results in success rather than that a given treatment always and predictably nets a positive response.

Goal-Free Evaluation

In order to avoid evaluation bias caused either by former association, a commitment due to some prior role in decision-making, or by the enthusiastic presentation of the program producer, some effort has been made to test a model of evaluation aimed at securing information from the perspective of the user. This method of evaluation is called goal-free evaluation. Scriven (1976, 137) expands on the merits of goal-free evaluation (GFE):

> . . . It is extremely important as a methodology for avoiding over-favorable evaluations, and for detecting side effects. Since one has not been told what the intended effects -- goals -- are, one works very hard to discover <u>any</u> effects, without the tunnel vision induced by a briefing about goals. If GFE sometimes errs in the direction of being too critical or missing a main effect, the cost of those errors is insignificant <u>because they can be picked up at the debriefing</u>.

Evaluators have been assigned the task of evaluation of a given program without being briefed on the objectives of the program. Some unusual factors are discovered by these "unprogrammed" evaluators.

Regression Discontinuity Analysis

Campbell (1971, 248) recognized that there may be times when randomization is deemed impossible or not morally justifiable. He proposed a quasi-experimental design not in common use described as follows:

> . . . If randomization is not politically feasible or morally justifiable in a given setting, there is a powerful quasi-experimental design available that allows the scarce good to be given to the most needy or the most deserving. This is the regression discontinuity design. All it requires is strict and orderly attention to the priority dimension. The design originated through an advocacy of a tie-breaking experiment to measure the effects of receiving a fellowship (Thistlethwaite & Campbell, 1960), and it seems easiest to explain it in that light. . . . Full randomization of the award was impossible given the stated intension to reward merit and ability. But it might be possible to take a narrow band of ability at the cutting point, to regard all of these persons as tied, and to assign half of them to awards, half to no awards, by means of a tie-breaking randomization.

The two groups formed by virtue of being just above or just below the cut-off point are compared on points of importance relevant to the research question. This could be used to select the final students admitted to a vocational course in which demand exceeds the number of students that can be accommodated in the course. The final 3-5 students could be selected at random from the 6-10 who were ranked next for admission. The students who were in the final group to enroll would be considered the experimental group and those who were rejected would be considered the control group. This method of selection would elicit almost as rigorous a research design as the experiment design and is a much more feasible research design with the C&HE programs.

Goal Attainment Scaling

Goal attainment scaling, as used in the mental health field, is described by Kiresuk and Lund (1976). The technique has the advantage of accommodating both process and outcome measurement of services and benefit to individuals being served. The technique is advocated on the premise that it does not evaluate the program per se, but rather evaluates those served on their progress toward their unique goals. The manipulation of the "unique goals" to show positive results would undoubtedly be a concern levied by the critics of this informal research methodology. However, if used as designed, this method could provide findings that would supplement other, more rigorous research effort.

Summary

Five methods of inquiry that can be used to supplement experimental research have been described and discussed in this section. These methods have been introduced in order to encourage C&HE researchers to use some of these techniques to support the experimental or quasi-experimental research studies they have underway or plan to launch.

Errors and Limitations

Sound research designs avoid as many potential errors and limitations as possible. The threat of calling something significant when it is not significant, commonly called a Type I error, challenges all researchers. To commit a Type I error needs to be systematically avoided. A Type II error is equally as threatening to researchers. To call something not significant, when in fact it is significant, is also a serious error.

Reality and Validity

Other threats to the reliability and validity of research findings can be avoided by establishing and/or documenting the reliability and validity of test instruments or evaluation measures used in the study. Essential steps for valid data collection include:

1. Using an instrument in the way it was designed and with subjects for whom it was designed.

2. Collection of data in identical manner for each subject.

3. Administering and scoring instruments per directions.

Consumer and Home Economics researchers need to be cognizant of the fact that a threat to the experimental design is posed when the treatment being studied is most likely to be used to treat individuals who have a specific need or a specific gift. Either case will bias the study; the former in a negative and the latter in a positive direction. Campbell (1971, 256-257) illustrated:

> . . . First, there are those treatments that are given to the most promising; treatments like a college education which are regularly given to those who need it least. For these, the later concomitants of the grounds of selection operate in the same direction as the treatment: those most likely to achieve anyway get into the college most likely to produce later achievement. . . .
>
> . . . At the other end of the talent continuum are those remedial treatments given to those who need it most. Here the later concomitants on the grounds of selection are poorer success. In the Job Training Corps example, casual comparisons of the later unemployment rate of those who received the training with those who did not are in general biased against showing an advantage to the training.

It is important to determine if the abilities of students in C&HE programs can be expected to bias the results of an experimental research design. If the students who enroll in C&HE programs are nonacademic, as is frequently claimed, perhaps there is a negative bias that cannot be avoided; however, an awareness of this condition should allow the researchers to explain it. A comparison of the I.Q. or other standard achievement test scores of C&HE students with the control group would allow the researcher to predict the degree of negative or positive bias that could be expected in the data. An analysis of the ability of the C&HE students is recommended to determine that they are no different than their comparison group; or that they are different and the direction of difference.

Need for Multiple Research Projects

Campbell (1971) cautioned against decision-making based on a single experiment. Plans for replication could be underway before an original experiment is completed when a decision is to be influenced by data being gathered.

Rossi (1971, 280) urged researchers to consider powerful research designs since effects may appear negligible if a design is weak: "Since there is such a high likelihood of small effects, we need very powerful research designs to get clear results." When evaluation research is expected to influence decision-making, Rossi (1971, 281) proposed that a two-phased strategy be considered. This two-phased strategy would include phases he described as:

> . . . A reconnaissance phase -- a rough screening in which the soft and the correlational designs filter out those programs worthwhile investigating further, and experimental phase in which powerful controlled experiments are used to evaluate the relative effectiveness of a variety of those programs already demonstrated to be worth pursuing.

The C&HE research true randomization is ethically, if not morally, difficult because students elect courses (in all but rare cases). If true randomization were to occur, some of the students who have elected to take a course would be deprived of that opportunity. Should the C&HE researchers generate an "empty" course for the control group for purposes of research? Campbell would likely answer in the affirmative. Further review and discussion of this issue is needed.

Coleman (1971, 283) spoke to the need for longitudinal research to accompany other research:

> . . . One of the difficulties faced in evaluation of a given program designed to serve a client population is the problem that final effects of the program may be very difficult to detect, or may in some cases be detectable only after a period of time.

> Thus, evaluation research that focuses solely on these ultimate effects may be unable to detect effects that in fact exist. For this reason, it is useful to consider a kind of evaluation that focuses on the region between inputs and effects. . . .

It is especially appropriate for research on the effects of C&HE programs to focus on the accomplishments from the time of entry to completion of the program in the opinion of the authors. Some longitudinal research efforts are also needed to determine the long-term effects of the C&HE program. However, C&HE cannot accept exclusive credit or responsibility for all the social ills such as divorce and child abuse, that is a one-semester course in child or parent development in high school of approximately 90-100 hours, cannot be condemned if it does not influence the behavior of a parent for a lifetime nor applauded because it was the sole source of prevention of such social ills in those cases where social ills were absent.

Examples of Effectiveness Research

Effectiveness research has been conducted for the evaluation of a number of social programs in the United States. Select examples of effectiveness research will be reviewed in this section in order to illustrate appropriate and inappropriate methodology and assumptions. Mental Health, Head Start, and Employment and Training Programs have each been the focus of major evaluation research efforts designed to determine the effectiveness of the respective programs. A summary of each of these evaluation research studies will be included in this section. A number of other social and educational programs such as Cooperative Extension and Job Corps have also been evaluated in the recent past but will not be summarized herein since the methodology and assumptions in the studies selected to be reviewed include the information pertinent to C&HE research.

The evaluation of both Head Start and the Employment and Training Programs was mandated by Congress. The limitation resulting from the confining time line carried by the mandate was responsible for a number of the methodological questions. Caution should be exercised by social programs to avoid such compromise. Concerns related to the evaluation of each program will be described briefly below.

Head Start

The Head Start Program evaluation completed by Westinghouse in the late "60's" has been subjected to serious criticism since its release. A brief review of the major criticisms of the Head Start evaluation will be presented in an effort to help the C&HE researchers to avoid similar design errors, or if not errors, at least threats to wide acceptance of the findings. Studies of Head Start conducted in the "70's" avoided some of the errors of the earlier study. Nevertheless, the errors of the earlier study are appropriate for review here. The Westinghouse study was considered to have had too narrow a focus because it evaluated only cognitive and effective outcomes. While Evans claims that this resulted from a conscious decision on the part of the research designers, the critics suggest that since these were not the only objectives of Head Start programs, conclusions about the impact of the program could not be accurately evaluated without also evaluating the other objectives, including the changes in health, nutrition and other community goals influenced by the Head Start Programs.

Secondly, the study is accused of lumping data from all Head Start Programs together; this fails to allow the superior programs to be identified and the unique characteristics of these programs to be selected and promoted. Evans (1971) suggested this was due to the fact that the purpose of this evaluation was to provide an indication of the overall effectiveness of the program. However, the inevitable condition of "regression toward the mean" was in effect and no program appeared to be effective.

When researchers are being urged to aggregate data, the simple phenomenon of regression toward the mean is frequently responsible for no statistically significant difference. Consumer and Home Economics researchers need to be aware of this phenomenon.

Other criticisms acknowledged by Evans (1971, 401-407) of the methodology used in the Head Start study included:

1. Small sample size (i.e., number of full-year Head Start centers selected).
2. Sample not representative (i.e., many of randomly selected centers were eliminated and had to be replaced).
3. Instrumentation not standardized (i.e., cognitive and affective assessment instruments for this age group were in an early developmental stage and were not developed for the disadvantaged population tested).
4. Ex post facto design (i.e., the generation of control group by matching Head Start children with non-Head Start children, post facto cannot assure the two groups were equivalent before treatment).
5. The study tested children each of three years after attending a Head Start program (i.e., the conclusion that Head Start programs do not have appreciable effects does not consider the possibility that the effects need reinforcement or can be expected to fade out over time).
6. The control group was in the same classroom as the experimental group during the three years these two groups were tested and compared (i.e., it is unlikely that the students in the control group were not influenced by the students who had been in the Head Start program).
7. Studies that are not methodologically sound may generate information that poses a serious threat to the continuation of the federal funding and thus the survival of such programs.

After reviewing the criticism of the Head Start evaluation, one is prompted to reflect on whether any major evaluation effort that must accept several compromises in design should be conducted. Whether this is because of limited funding or a limited time frame, the completion of such an evaluation study may be a serious and unwarranted threat to the program.

Mental Health

Mental health program evaluations have been initiated by those responsible for mental health program leadership. The sophistication of the design being developed may offer some encouragement for the C&HE program evaluators. According to Ciarlo (1977) the total evaluation program has not matured to the point it is or can be utilized in the regular decision-making and program monitoring process.

The methodology of the mental health evaluation project merits further consideration by C&HE researchers. The mental health follow-up data were gathered by means of a questionnaire administered by a non-professional in a face-to-face interview in a client's own home. This method was selected to reduce the bias to the data produced when clients were motivated to "please-the-doctor" or similarly to "please-the-teacher." The face-to-face mode was selected to avoid the selective elimination of the clients who had no telephone or were unable to read or write, as well as to secure more accurate information from clients unwilling to be frank or truthful when completing a mailed questionnaire.

The plans for analysis, interpretation, and utlization of the follow-up data from the mental health clients also merit further consideration by the C&HE researchers. Basically, the mental health system includes the comparisons of client data with questionnaire responses from a random sample of the total population in the community served by the given mental health program. The questionnaire is standardized on a random sample of the population. This enables the evaluators to compare scores of clients at the time of intake, as well as follow-up, with the non-client community norms.

Ciarlo suggested that plotting the data on a graph permits a visual comparison of the progress or lack thereof. When data are continuously gathered and reported by a graphic means it allows and encourages utilization for decision-making. Ciarlo (1977, 649) said that a continuous "picture is generated of how typical client groups are functioning at intake relative to the . . . community, how much better (or worse) they are functioning at follow-up, and how far they are at follow-up from the . . . community average in each functioning area."

The graphic presentation also promotes the rapid identification of dramatic change in the clients and the variables that may have some relationship to the change. This is especially useful when the change is in the negative direction. Accurate records and graphic presentation of program accomplishments would be useful for the C&HE evaluators.

Employment and Training Programs

In 1976 more than nine billion dollars was spent for training, placement, and work experience programs. Fifteen years earlier the dollars spent on such programs was less than one-quarter of a billion. Questions related to the effectiveness of such programs and concern over this substantial investment have been frequently repeated. Prior to the Comprehensive Employment and Training Act of 1973 (CETA) there were numerous federally funded categorical programs with unique but similar manpower objectives.

After fifteen years of experience and millions of dollars spent on research and evaluation, the National Council on Employment Policy (NCEP) (1977, 687-689) offered a list of four very broad but positive outcomes including:

1. Improved economic well-being of the participants.

2. Benefits usually exceed costs in dollars and cents, however, benefit-cost analysis cannot serve as a primary measure of effectiveness because of its inability to measure important related factors.

3. Reduce poverty and reduce unemployment.

4. Effectiveness of employment and training programs have unanswered questions.

Decision-making standards that influence "employment and training policies must rest on informed judgments rather than unequivocal findings," according to the National Council on Employment Policy (1977, 679).

According to the NCEP (1977, 690-691), some of the threats to the claims of the employment and training programs are:

1. The intervening variables (i.e., employer, home, and family stability, etc.) which prevent the training programs from ascribing the success directly to the srvices received from the given program.

2. The questions related to a control group, for to have a group randomly assigned to be the control group would be to deny training and employment services to some of those desiring such services, and any other method used to select a comparison group may identify individuals with different attitudes and/or different degrees of motivation.

3. Differential success of enrollees compared to controls may be inaccurate; if the employment and training program has a corner on the job market it may become a rationing mechanism rather than a training program.

4. The duration of impacts may deteriorate over time, especially if the control group contains a disproportionate group of students in college or technical training programs.

The NCEP (1977, 693) concluded with a postive, yet unproven position in relation to the effectiveness of employment and training programs. They report "that practical and theoretical problems seriously limit what we have learned and can learn about effectiveness of employment and training programs. Despite our best efforts, the rigorous, unequivocal answers desired by policymakers are not available and are an unlikely prospect."

The NCEP concludes that the worth of the Employment and Training Programs cannot be proven beyond a reasonable doubt, yet the weight of the evidence is unquestionably positive. They also assert that they can prove that the effects are positive in relation to some questions.

Perhaps the C&HE researchers and evaluators need to assert the positive direction of the evaluations even if the degree of the impact is not as certain. To continue a debate about the accuracy or inaccuracy of the measurement instrument or system is sterile and unproductive.

Important Research Questions in C&HE

Research has been conducted to determine the impact of certain factors on student achievement in C&HE. Additional research in this area, as well as research to define the nature of the C&HE student and long-term and short-term effects of C&HE on the learner, would provide a data base upon which rational decisions could be made.

The following list of questions are some of the questions the C&HE researchers need to begin to answer:

1. What are the characteristics of C&HE students and to what extent are they like their high school counterparts who do not elect to study C&HE?

2. What are the long-term affects of C&HE instruction on learners?

3. What affect does C&HE instruction in each subject area have on student achievement, attitude, and behavior?

4. What factors affect curriculum decisions about C&HE course offerings and course content?

Some studies have reviewed the factors that influence student achievement in C&HE such as teaching techniques, learning environment, student motivation, teacher preparation, teacher commitment, and curriculum content. Additional research is needed regarding each of these factors because as students change, the way each factor influences learning will differ from the way it affected students when they were different.

Research in Progress

Indications are that in the future there will be considerably more data available on the effectiveness of Consumer and Homemaking Education Programs. Responses to the request for available data for this report indicated that state-wide studies are now underway in California, Indiana, Iowa, Kentucky, Minnesota, Missouri, New Hampshire, New York, Virginia, and West Virginia.

The Iowa Consumer and Homemaking Education Project will focus upon assessing the effectiveness of Iowa programs in three content areas:

1. Consumer education/management
2. Parenthood education
3. Nutrition and food use

The study will include high school seniors and a follow-up of them six months after graduation. The State Director for Home Economics Education in Kentucky reported that state will begin a three-year follow-up of persons who completed courses in Consumer and Homemaking Education. This study is expected to focus on the impact of these programs on learners.

The impact of Consumer and Homemaking Programs in Indiana secondary schools is being studied. The objective is to obtain a measure of the perceptions of former Consumer and Homemaking Education students about the effectiveness of the programs in that state. An interim report of this study was cited in this paper.

The need for such research has become apparent in recent years; therefore, funds are gradually being made available to support such research. Most of these funds tend to come from individual states rather than directly from the federal agencies. Research in C&HE is a new priority of states. State funds in the past have tended to be earmarked for developmental activities. Research is needed to study the effectiveness of these curricula and materials as instructional tools.

Federal funds are also needed to support some research efforts that may extend beyond the needs and interest of any given state. Federal funds, for example, can be used to support research that utilizes national samples rather than limited intact classes, to establish and study regional and/or national experimental C&HE programs for youth and adults, and to conduct longitudinal studies on the effectiveness of C&HE.

The review of research reports for this paper revealed much variation in programs for youth and adults. The questions being addressed in this report may seem to imply that all C&HE programs are alike, but this is not the case. National comparative studies that take into account these variations and longitudinal studies that can assess impact over time also need to be conducted.

The C&HE leaders in the Home Economics Division of the American Vocational Association organized an Ad Hoc Committee that has encouraged the development of several research projects. The "census" study under the leadership and direction of Dr. Ruth Hughes is nearing completion. This study was to determine who the students were who were enrolled in C&HE and in which C&HE courses they were enrolled. Initial steps were also taken to determine the content of the C&HE courses in which they were enrolled.

Other evaluation studies have been initiated by the Ad Hoc Committee cited above and several of these are nearing completion. Only the "census" study is a national one; however, some of the other studies have used a multi-state population.

Summary

Rigor in selection (or development) and use of an instrument are essential for valid and reliable data collection. Both Type I and Type II errors should be avoided. At the present time, limited effectiveness data are available for C&HE. Since there is a need for decision-making to be based on research findings, additional evaluation research is seriously needed.

The nature of the subjects (either above or below average) will bias the findings. Therefore, researchers evaluating social programs for either above or below average subjects need to be aware of this phenomenon and account for it in the analysis of the data and in the reports of the findings.

The findings of a single study do not provide adequate evidence for decision-making in the social science areas. Findings of multiple studies will support and compliment each other and form a solid base for decision-making. Longitudinal studies provide some kinds of data not available from any other type of research.

Evaluation research studies have been conducted to determine the effectiveness of other social programs including Mental Health, Head Start and Employment and Training Programs. Evaluation of the two latter programs was mandated by Congress.

Evaluation research studies need to have a rigorous design in order to provide valid and reliable data upon which to determine the effectiveness of a program. The value of data gathered from a study where extensive compromise must be made in the research design is seriously questioned.

Studies of an evaluation nature, other than a research design, generate supportive data that are very useful to explain questions that have not been answered by evaluation research. Supplemental studies enable decision makers to have more than one source of information. There are several social programs for which it has not yet been possible to generate unequivocal evidence of effectiveness. However, the data available are of a positive nature for several of these programs, including C&HE.

Additional research is needed to determine:

1. the characteristics of the C&HE students.
2. long-term affect of C&HE programs on learners.
3. change in achievement, behavior, and/or attitude of the learner resulting from C&HE.
4. what factors affect C&HE curriculum decisions.
5. factors that influence learners such as teaching style, teaching techniques and others.

Additional research is underway that is designed to assess aspects of effectiveness of C&HE. Several state-wide studies have been initiated. The Ad Hoc Research Committee of the Home Economics Division of the American Vocational Association has initiated a national study to determine who is enrolled in C&HE and in what specific courses they are enrolled. This study is being identified as the Census Study. This Ad Hoc Committee is responsible for encouraging other research projects that are underway.

Even with the apparent increase in evaluation research in C&HE, few national studies are underway. National studies are needed that compare program differences and similarities and assess the differences in effectiveness and the reasons for effectiveness where it is found. Federal funding would be a real asset for encouraging the initiation and completion of such studies.

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