A MODEL FOR EVALUATING INTERDISCIPLINARY
IN-SERVICE TRAINING PROGRAMS

by

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Dissertation submitted to the Graduate Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY
in
Human Nutrition and Foods

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July, 1979
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ACKNOWLEDGMENTS

The writer wishes to express sincere appreciation and gratitude to her doctoral committee: Dr. Rebecca M. Mullis, Chairman; Dr. Ryland E. Webb; Dr. Amelia G. Brown; Dr. Robert B. Frary; and Dr. Elizabeth B. Bolton.

The writer also wishes to express appreciation to the Extension specialists who formed the interdisciplinary team: Dr. Rebecca M. Mullis, who conceived the idea for Family Resource Development for the Handicapped, Dr. Beatrice Kalka, and; and to for help in retrieving data through the Virginia Extension Management Information System.

The writer is indebted to Dr. Amelia G. Brown, Dr. Rose Marie Cooper, and for their support, encouragement, and help throughout her entire doctoral program.

Special thanks go to for expert typing of the manuscript.

Finally, the writer is appreciative beyond expression for the patience, understanding, support, and encouragement of her sons, and, and of her mother, (formally ), throughout the writer's entire doctoral program.
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CHAPTER I

INTRODUCTION

Every time the clock ticks—another person becomes permanently disabled. Additionally, every time the clock ticks—a child is born into the world with a disability. (Schwab, 1978)

Description of the Problem

Of the total 1976 United States' population of over 200,000,000 people, more than 26,000,000 were estimated to have some type of activity limitation (Schwab, 1978, based on Health Interview Survey for the United States, 1970), and over 20,000,000 were estimated to have major activity limitations. Data from the 1969 National Center for Health Statistics indicated that over 1,000,000 persons had to use a wheelchair, walker, braces, or crutches for aid in mobility, with over 400,000 of these being confined to a wheelchair (Schwab, 1978).

Impairment of mobility results from many chronic conditions, among them: complete or partial paralysis due to spinal cord injury; disability due to arthritis and rheumatism; disability due to other diseases of muscles, bones, and joints; and congenital abnormalities. Such impairment may range from slight disability to quadriplegia.

Historically, handicapped persons have been institutionalized or placed in nursing homes as persons completely dependent on custodial care; or such persons have remained
at home, protected from any role in society, with the family as custodians (Collins, 1973). Little or no training was offered such persons toward developing the optimum degree of independence allowed by their particular handicaps.

Recent legislation, however, has placed an increased emphasis on the rehabilitation of the severely disabled (Schwab & Fadul, 1975), so that they no longer have to be relegated to the role in life of being mere spectators, but rather, can enter life's mainstream (Michaux, 1970). Such legislation includes: the 1972 Amendment to the Economic Opportunity Act; the 1973 Rehabilitation Amendment; the 1974 and 1975 Social Services Amendments to the Social Security Act; and the 1975 Amendment to the Elementary and Secondary School Act, which provides for education for all handicapped children in the least restrictive environment.

Such legislation has helped bring about the current trend away from institutionalization for the handicapped. It also has fostered a need for professional persons who traditionally have worked only with non-handicapped persons, to provide services for the handicapped in their homes and communities.

With this move away from institutionalization, both the family and the community will have to take an active part in the care, rehabilitation, and education of the handicapped. In addition, there will be a greater need for services to assist the handicapped in facing the social and physical obstacles in their environment.
The thrust of rehabilitation today is to minimize the handicap and to emphasize the likeness to the non-handicapped person (Yep, 1976). What determines whether a handicapped person will live a productive life is the degree of his dependence or independence in managing the everyday essential tasks related to food, shelter, and clothing, rather than the nature of the disability itself (May, Waggoner, & Hotte, 1974).

Home economics, with its focus on both the family and the individual, has the potential to prepare professionals to work with the physically handicapped to help maximize the functioning of physically handicapped persons in the home environment. Problems of housing and household equipment, clothing and textiles, family relationships, foods and nutrition, family economics, and home management touch the lives of the handicapped of all ages and both sexes (Knoll & Schwab, 1974).

The 1977 White House Conference on Handicapped Individuals was charged with developing plans for meeting the needs of handicapped Americans. Discussion in the conference suggested that the Cooperative Extension Service is unique, among existing agencies, in its ability to give handicapped persons informal education in homemaking and self-care skills. According to Schwab (1978), a delegate to the White House Conference on Handicapped Individuals, the conference recognized Cooperative Extension as one of the principal channels
available for public education on the problems of the handicapped. Schwab suggests that Extension home economists can teach the handicapped how to cope with problems in care of self, home, and family.

Extension home economists are located in unit offices in the counties and cities throughout the United States. In Virginia, one of the major program areas of the Cooperative Extension Service is Extension Family Resources. Extension Family Resources is designed to improve the quality of living for individuals, families, and communities.

Since Extension home economists already are trained to implement the program of Extension Family Resources, these agents could be trained to incorporate the needs unique to the physically handicapped into their existing professional training in home economics. Furthermore, since Extension Family Resources is readily available to a large percentage of the population throughout the Commonwealth of Virginia, assistance in mainstreaming the physically handicapped into their communities and into society would be readily available to a large percentage of the physically handicapped population.

The efficacy of training Extension home economists to serve the needs of the physically handicapped is obvious, since they would have to be trained only in the areas where the needs of the physically handicapped relating to home and family living differ from other family members.

Training of Extension home economists customarily is disciplinary in nature, with an Extension specialist providing
expertise in a subject matter area during workshops or other appropriate educational strategies. The broad area of home economics, however, brings together many problems and disciplines relevant to better living for the family, the individual, and the community. Home economics offers almost unlimited possibilities for cooperation among two or more disciplines within the field of home economics itself (McGrath & Johnson, 1968). Smith (1972) has stated that "the interdisciplinary approach involves a cooperative group effort... [in which] the special skills of diversely trained professional persons are utilized collectively for understanding and resolving problems too complex to be understood or resolved adequately by any single profession" (p. 144).

Since the problems of handicapped persons can be more complex than those of non-handicapped persons, knowledge available for solving problems of the handicapped is much greater than one discipline can know or utilize; therefore, there is a need for training by specialists from several disciplines in a common setting, dealing with common problems (Jordan, 1972). These various specialists would make up an interdisciplinary team. The training and expertise of Extension Family Resource specialists make these Extension specialists well qualified to function as an interdisciplinary team to train Extension home economists to handle problems unique to the physically handicapped, by improving the quality of living for handicapped individuals and their families in the community.
In response to this need for training Extension home economists to serve the needs of the physically handicapped in the community, a project was proposed jointly by the two divisions of the Virginia Cooperative Extension Service: Virginia Polytechnic Institute and State University and Virginia State College (Virginia State University as of July 1, 1979). Funded under a grant through Title I of the Higher Education Act of 1965, the project was entitled "Family Resource Development for the Handicapped."

The purpose of this project was to train 15 Extension home economists from Extension units throughout the Commonwealth of Virginia to work with physically handicapped persons and their families in the community. The training was designed as a residential interdisciplinary in-service training program and was held at the Donaldson Brown Continuing Education Center, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, in conjunction with a conference entitled "Community Consumer Education Awareness," which also was funded under Title I. The audience for the conference was a group of over 200 community leaders, representing a broad base of various concerned consumer groups throughout the Commonwealth of Virginia.

While Family Resource Development for the Handicapped served as an in-service training program for Extension home economists, it also constituted a segment of the Community Consumer Education Awareness Conference and was open to the
participants in the conference. This study was involved with evaluation of the interdisciplinary in-service training program, Family Resource Development for the Handicapped.

**Purpose of the Study**

The purpose of this study was to evaluate an interdisciplinary in-service training program, Family Resource Development for the Handicapped, and in conjunction with this activity to develop a general model for evaluation of interdisciplinary in-service training programs.

**Objectives of the Study**

1. To examine the context in which the in-service training program was conducted.
2. To collect and analyze data relating to the effectiveness of the in-service training program.
3. To develop a general model for evaluation of interdisciplinary in-service training programs.
4. To evaluate the interdisciplinary in-service training program using the model developed.
5. To test the efficacy of the model for its intended use.

**Theoretical Propositions**

Three theoretical propositions were generated to provide the framework for this study. These propositions were:

1. The interdisciplinary team approach is an effective approach to training Extension home economists to handle
family resource problems unique to the physically handicapped in the community.

2. Average scores on a knowledge test pertaining to the physically handicapped will be greater for Extension agents (home economists) attending the training than for Extension agents not attending the training.

3. The number of work days expended on Family Resource projects for the physically handicapped, by the Extension agents participating in the training, will be greater for the six months' period following the training than for the six months' period prior to the training.

**Delimitation of the Study**

Utilization of the model developed by this researcher is restricted to evaluation of interdisciplinary in-service training programs.

**Limitations of the Study**

1. All facets of the evaluation model could not be tested on the interdisciplinary in-service training program, Family Resource Development for the Handicapped.

2. The interdisciplinary approach to training Extension home economists in family resource subject-matter areas, to work with the physically handicapped, is new and untested.

3. The evaluation instruments may not adequately assess the effectiveness of the interdisciplinary approach to training.
Definition of Terms

Conference. The Community Consumer Education Awareness Conference, of which the in-service training program was a component.

Cooperative Extension Service. A national system of adult education dedicated to the development of people, to the end that they, through their own initiative, may effectively identify and solve the various problems directly affecting their welfare (Boone, 1970).

Ecosystem. A system formed by the interaction of a community of organisms with their environment.

Educational systems. Social systems (in which the parts involved are persons, groups, or organizations), devoted to the achievement of educational goals (Miles, 1964a).

Extension Family Resources. A program area of the Cooperative Extension Service incorporating educational programs to improve the quality of living for individuals, families, and communities.

Extension home economists. Extension agents in the program area of Extension Family Resources. (In this study, the terms Extension home economists, Extension agents, and agents will be used interchangeably.)

Extension specialists. Extension personnel with expertise in one of the subject-matter areas incorporated in Extension Family Resources. (In Virginia, Extension specialists serve the dual function of being faculty members of one
of the Land-Grant institutions: Virginia Polytechnic Institute and State University, or Virginia State University).

**Family resources.** Those resources designed to improve the quality of living for individuals, families, and communities.

**Family Resource subject-matter areas.** Those subject-matter areas incorporated in the Extension Family Resources program: (a) foods and nutrition; (b) family resource use; (c) clothing and textiles; (d) housing; and (e) family development.

**Handicapped.** Those persons who are non-institutionalized, yet are physically limited to the extent that modification of home and family living is necessary.

**Human ecological model.** A model that views organisms as interacting with their environment.

**Human ecosystem.** An ecosystem that includes human beings existing in interaction with the total environment; it involves circulation, transformation, and storage of energy, matter, and information through biological, physical and social processes (Bubolz, Eicher, & Sontag, 1979).

**In-service training program.** The program with which this study is concerned, entitled "Family Resource Development for the Handicapped," a component of the Community Consumer Education Awareness Conference.

**Interdisciplinary approach.** The approach to education of bringing together knowledgeable people from two or more
disciplines to combine their talents and function as a team, by applying the concepts, methods, or procedures of each discipline to the same problem or topic (Abbey, 1976; Hoffman, 1969).

**Permanent system.** A durable structure, with implied permanency, that operates with the function of maintaining a person, group, or organization in the surrounding social system over an extended period of time.

**System.** A bounded collection of interdependent parts, devoted to the accomplishment of some goal or goals, with the parts maintained in a steady state in relation to each other and the environment, by means of standards modes of operation, and feedback from the environment, about the consequences of system actions (Miles, 1964a).

**Temporary system.** An interstitial structure that operates both within permanent organizations and between them, in which the members hold from the start the basic assumption that at a defined point in time, the system will cease to operate; such temporary structures include conferences, workshops, and in-service training programs and are designed to bring about changes in persons, groups, or organizations (Miles, 1964b).

**Workshops.** Those individual sessions of the interdisciplinary training program that correspond to Family Resource subject-matter areas.
CHAPTER II
REVIEW OF LITERATURE

The review of the literature focused on four major areas considered germane to this study: (a) general concepts of evaluation; (b) educative systems; (c) the interdisciplinary approach; and (d) evaluation of training. In addition the review included three topics that were pertinent to this particular interdisciplinary in-service training program: (a) the human ecosystem, (b) the physically handicapped, and (c) the Cooperative Extension Service.

General Concepts of Evaluation

During the last 10 years, with the tremendous growth in all types of educational programs in the United States, there has been growing emphasis on evaluation of such programs. This emphasis on evaluation is largely due to the trend toward accountability for use of funds granted for operation of such programs.

Though evaluation is one of the most widely discussed processes in today's educational systems, it is still not widely used so that only a small fraction of educational programs of any type have been evaluated in any but the most cursory fashion, if at all (Worthen & Sanders, 1973).

Though formal evaluation often is considered a relatively new procedure which developed within the last 10 years, the
concept of evaluating individuals and programs was evident as early as 2000 B.C. when Chinese officials were conducting civil service examinations (DuBois & Mayo, 1970). In the United States, the first evidence of program evaluation was recorded toward the end of the 19th century. This evaluation was of a spelling performance of 33,000 students in a large city school system (Worthen & Sanders, 1973).

Today the literature is replete with information on all types of evaluation procedures, large and small. Evaluation seems to be affixed to any process of assessing any type program. Consequently there is a strong need for systematic evaluation processes, with a definite purpose in mind.

Evaluation procedures in the literature include those in education, in social programs, in business, in industry; in formal education settings and in informal education settings. The evaluator seeking direction in proceeding with evaluation in a systematic way must wade through miriads of material written on the subject before pinpointing those procedures and processes that will be applicable to a particular type program. Often, however, facets from evaluation techniques in business, for example, can be meshed with those of education to form a contemporary approach to evaluation more formidable than the approach used in either area alone.

The literature on evaluative research includes methods of assessing program effectiveness, for example, in education, in social programs, in business, in industry, etc.
There are of necessity, however, discrepancies among the different areas in the research approach required for a particular area. Consequently, there has been confusion in the literature due to the practice of combining various evaluative techniques, which may have the same terminology, but are quite different in scope. Discussion of evaluation as far as this research is concerned, therefore, will be limited to those aspects of evaluation that are applicable to evaluation of the project, Family Resource Development for the Handicapped, an interdisciplinary in-service training program.

Generally, three main schools of thought about evaluation in education have co-existed for at least 30 years: (a) evaluation has been defined as roughly synonymous with educational measurement; (b) evaluation has been defined as synonymous with professional judgment; and (c) evaluation has been defined as the process of comparing performance data with clearly specified objectives (Phi Delta Kappa National Study Committee on Evaluation, 1971).

Many new theories have appeared in the past ten years in the field of educational evaluation. Steele's Contemporary Approaches to Program Evaluation (1973) contains outlines of 50 different approaches to evaluation. Of the many new definitions of evaluation that have emerged in the last decade, the most popular definitions are those in which evaluation is viewed as "a process of identifying and collecting
information to assist decision-makers in choosing among available decision alternatives" (Worthen & Sanders, 1973, p. 20).

The purpose of evaluation often is confused with the definition of evaluation. The purpose of evaluation suggested by Worthen and Sanders (1973) is appropriate for this research:

Evaluation is the determination of the worth of a thing. It includes obtaining information for use in judging the worth of a program, product, procedure, or objective, or the potential utility of alternative approaches designed to attain specified objectives. (p. 19)

Stufflebeam, as Chairman of the Phi Delta Kappa National Study Committee on Evaluation (1971), describes evaluation as "the process of delineating, obtaining, and providing useful information for judging decision alternatives" (p. 40). Worth and Sanders (1973) suggest several key points regarding this definition of evaluation:

1. Evaluation is performed in the service of decision-making; hence, it should provide information which is useful to decision-makers.
2. Evaluation is a cyclic, continuing process and, therefore, must be implemented through a systematic program.
3. The evaluation process includes the three main steps of delineating, obtaining and providing. These steps provide the basis for a methodology of evaluation.
4. The delineating and providing steps in the evaluation process are interface activities requiring collaboration between evaluator and decision-maker, while the obtaining step is largely a technical activity which is executed mainly by the evaluator. (p. 129)
The Phi Delta Kappa National Study Committee on Evaluation (1971) stresses the fact that the evaluator should not assume responsibility for roles of the decision maker(s). The evaluator does not make program decisions nor implement them, but rather the role of the evaluator is to provide information to the decision maker. The decision maker, however, under certain conditions "might perform many of his own evaluation tasks of delineating, obtaining, and using evaluative information" (p. 93). The Committee therefore viewed the distinction between evaluation and decision making as being a very fine one.

Scriven (1967) feels that the function of evaluation can be thought of in two ways: the goals of evaluation can be thought of at the methodological level; the roles of evaluation may be thought of in a particular sociological or pedagogical context. Scriven explains that in terms of goals, evaluation attempts to answer certain types of questions about certain entities, these entities being the various education instruments, including processes, personnel, procedures, programs, etc.

Scriven further explains that evaluation may have various roles in a particular educational context; in one role it may form part of a teacher training activity; in another role it may form part of a field experiment connected with improvement of learning theory. Scriven believes that evaluation can and should play several roles, and he
divides these roles into two categories, the formative role and the summative role. The formative role is concerned with the ongoing improvement of an educational entity, such as a curriculum, a workshop, a seminar, or in-service training program. In the summative role, the evaluation process is concerned with the effectiveness of the educational entity once it is completed. In the summative role the evaluation process may enable decision-makers to determine if the finished educational entity is a viable alternative to a previous curriculum, program, or the like. Scriven emphasizes that the goals of evaluation always include the estimation of merit, worth, or value, which contributes to the decision-making process.

Worthen and Sanders (1973) believe a theme of major concern in Scriven's paper is "the concern over the evaluation of objectives as a prerequisite for program evaluation" (p. 105). In discussing Scriven's paper, Worthen and Sanders state that even though program objectives are all met, the program cannot be judged valuable if the objectives are not worthwhile. Worthen and Sanders feel that this should be a critical concern in all evaluation studies.

Brack (1975) has suggested that the most practical approach to evaluation is the selection of elements from a number of different evaluation models since it is unlikely that one design or one approach will be appropriate in meeting the needs of all evaluation studies. This is
particularly true in designing evaluation schemes for innovative programs.

**Educative Systems**

In order to select the most appropriate elements for an evaluation design, one must first consider the type of effort to be evaluated. In developing a theoretical model for evaluation of a specific educational approach, i.e., the interdisciplinary approach to meeting the family resource needs of the physically handicapped, it is necessary to consider the contextual framework upon which the interdisciplinary approach is based.

The systems approach as it is used in this study is based on Miles' (1964a) work with educational systems. Miles has suggested a working definition of the term "system" as it applies to educational systems:

A bounded collection of interdependent parts, devoted to the accomplishment of some goal or goals, with the parts maintained in a steady state in relation to each other and the environment by means of (1) standard modes of operation, and (2) feedback from the environment about the consequences of system actions. (p. 13)

Miles refers to educational systems as those systems, whose parts involved are persons, groups or organizations, that are devoted to the achievement of educational goals. Miles further defines "innovation" as "a deliberate, novel, specific change, which is thought to be more efficacious in accomplishing the goals of a system" (p. 14).
Griffiths (1964) defines system as a "complex of elements in mutual interaction" (p. 428). Allport (1955), gives a more comprehensive definition:

... any recognizably delimited aggregate of dynamic elements that are in some way interconnected and interdependent and that continue to operate together according to certain laws and in such a way as to produce some characteristic total effect. A system, in other words, is something that is concerned with some kind of activity and preserves a kind of integration and unity; and a particular system can be recognized as distinct from other systems to which, however, it may be dynamically related. Systems may be complex: they may be made up of interdependent subsystems, each of which, though less autonomous than the entire aggregate, is nevertheless fairly distinguishable in operation. (p. 469)

Griffiths (1964) describes systems as being open or closed. According to Griffiths,

... an open system is related to and makes exchanges with its environment, while a closed system is not related to and does not make exchanges with its environment. Further, a closed system is characterized by an increase in entropy, while open systems tend toward a steady state. (p. 429)

Miles (1964b) further delineates systems into temporary systems and into permanent systems. Permanent systems include schools, colleges, government agencies, industrial corporations, a particular family, a community agency, or a community itself which are destined for extended life. The participants in these structures usually expect them to exist for an indefinite period of time.

Within this framework of organizations and groups constituting any particular society, Miles says there are a large number of interstitial, temporary structures (Miles, 1964b).
Such structures operate both within the permanent organizations and between them. The basic assumption made by the members of these systems is that at some more or less clearly defined point in time, the temporary system will cease to be.

Miles (1964b) says that the range and scope of such temporary structures is quite wide. Included in the range and scope of temporary systems are: conferences, conventions, training institutes, in which the systems are designed to alter or benefit their participants in some particular way.

The defining concept in a temporary system according to Miles is anticipated duration. One of the functions of such systems is that of "absorbing, counteracting, and making up for the malformations caused by formal organizations" (Miles, 1964b, p. 442).

Dickinson and Lamoureux (1975) used Miles' (1964b) temporary systems theory as the framework for evaluating educative temporary systems, in particular, short-term, intensive adult education programs. Dickinson and Lamoureux suggest that Miles' (1964b) temporary systems theory may be a promising approach to the evaluation of educative temporary systems in adult education, as it provides a framework for the development of research hypotheses. (p. 81)

Dickinson and Lamoureux report that the few studies that have attempted to analyze residential continuing education programs within the framework of temporary systems theory have been chiefly concerned with the process of the systems rather than with evaluation of the outcomes of participation in the
systems. These authors believe that there is a need for "empirical testing of hypotheses derived from temporary systems theory before final decisions can be made with respect to its utility as a guide to program evaluation" (p. 88).

Dickinson and Lamoureux (1975) conclude that:

There is a need to develop criteria for program success (educative temporary system effectiveness), to specify the nature of the changes expected from participation in educative temporary systems, and to seek a variety of indicators for program evaluation. (p. 89)

The Interdisciplinary Approach

The interdisciplinary approach has been defined as that approach that brings together knowledgeable people from two or more disciplines to combine their talents and function as a team by applying the concepts, methods, or procedures of each discipline to the same problem or topic (Abbey, 1976; Hoffman, 1969). Smith (1972) defines the interdisciplinary approach as that approach which involves

a cooperative group effort [in which] the special skills of diversely trained professional persons are utilized collectively for understanding and resolving problems too complex to be understood or resolved adequately by any single profession. (p. 144)

Saeger (1976) has stated that there has long been stern resistance to change and/or invasion of traditional disciplinary imperatives, but that today academic circles are seeking a fresh image of the processes of learning since no one discipline has all the questions or answers. This image
reflects the change from the traditional disciplinary approach in education to an interdisciplinary approach. Saeger paraphrases Piaget's (1972) definition of the term interdisciplinary by defining it as "cooperation among disciplines or subdisciplines leading to actual interactions and reciprocity of exchanges which result in mutual enrichment" (p. 3).

Abt (1972) describes an interdisciplinary group:

An interdisciplinary group consists of individuals trained in different fields of knowledge with different concepts, methods, and data and terms organized into a common effort on a common problem with continuous intercommunication among the participants from the different disciplines. (p. 26)

Capps (1972) defines the interdisciplinary approach in training as that force which promises to move disciplines to a more effective use of themselves in helping people in need, especially people with long-standing and multiple problems" (p. 142).

Regardless of the individual definitions of the interdisciplinary approach, they all culminate into one definition that implies that the interdisciplinary approach to education is that approach which combines the expertise of persons from different disciplines to seek solutions to problems too complex to be solved by one discipline. It is this definition with which this research is mainly concerned.

The disciplinary approach customarily has been used in education in which only one subject matter focuses on the solution of a problem. Since problems in our society have
become increasingly complex, the disciplinary approach to education no longer may be uniformly appropriate. Knowledge available for solving problems may be much greater than one discipline can know or utilize (Jordan, 1972) so that there may be a need for several disciplines in a common setting, dealing with common problems. This is particularly true in solving such problems as the problem of mainstreaming the handicapped into the community, in which the interdisciplinary approach to training would be appropriate because of the complexity of such a problem.

Home economics is an educational field that has traditionally utilized a human ecological approach to problems facing the family and society. It is only recently, however, that the interdisciplinary approach to solutions to these problems has been employed in home economics.

Ten years ago Hoffman (1969) stated that unprecedented demands are being made on the field of knowledge that encompasses home economics, so that new programs are emerging that call upon all the experience, knowledge, and creative thinking possessed by those in home economics for implementation. Families, faced with many problems of adjustment and with increased demands for decision-making, are searching for assistance in finding solutions to their problems. Home economics provides the basis for the discovery of new knowledge to assist people in the solution of these vast problems. According to Hoffman, the value of the interdisciplinary approach to seeking solutions to complex problems
lies in the pooling of talent of specialists from different disciplines to provide the tools to discover new knowledge on these increasingly complex problems.

Though Hoffman's discussion of the interdisciplinary approach refers mainly to interdisciplinary research in home economics, the ideas postulated are generalizable to the interdisciplinary approach to training, which combines the talents of specialists from the various subject matter areas in home economics to train professionals, paraprofessionals, and volunteers in an interdisciplinary setting. Home economics offers almost unlimited possibilities for cooperation among two or more disciplines or departments (McGrath & Johnson, 1968). The broad area of home economics brings together the many problems and disciplines relevant to better living for the family, the individual, and the community.

Since home economics is an amalgamation of applied disciplines, it is in a unique position to undertake solutions to problems requiring an interdisciplinary approach (Schlater, 1970). Though not all problems necessitate the interdisciplinary approach, such an approach is implicit in many of the fundamental problems facing families today.

A study entitled National Goals and Guidelines for Research in Home Economics (Schlater, 1970) sought "to establish major goals which would indicate the scope and strengthen the research base in home economics" (p. 7). As a result of this study, five mission-oriented goals for home economics research were established:
1. Improve the conditions contributing to man's psychological and social development.
2. Improve the conditions contributing to man's physiological health and development.
3. Improve the physical components of man's near environment.
4. Improve consumer competence and family resource use.
5. Improve the quality and availability of community services which enrich family life. (p. 7)

The report states that "the goals reflect the continuing commitment of home economics to the family and to the interaction between man and his near environment" (p. 7). The report also suggests that the solutions to the problems which the goals represent require multidisciplinary research (in this case, interdisciplinary research) because of the complexity of the problems represented.

This research project was concerned with the problem of mainstreaming handicapped persons into the community. Since the five mission-oriented goals for home economics research were the foundation for this project on mainstreaming the handicapped into the community, the Core Planning Committee for the project felt that the interdisciplinary approach was the approach that in Saeger's (1976) words would give a "fresh image" to the processes of learning how to solve a problem of such complexity as mainstreaming the handicapped into the community. The interdisciplinary approach in the project on which this research was based involved the use of an interdisciplinary team of specialists to train home economists to seek solutions to problems unique to the physically handicapped in the home and in the community.
Evaluation of Training

Though much has been written on the reasons for evaluation of training efforts, the culminating reason for such evaluation is the one expressed by Peterson (1973):

As the staging of an education conference requires a considerable investment of time and money on the part of the planners, resource, staff, and participants, an attempt should be made to assess the outcomes and benefits as accurately as possible. (p. 31)

If the term interdisciplinary in-service training program is juxtaposed to the term education conference, Peterson's reason for evaluation of an educational conference would apply to the evaluation of an interdisciplinary in-service training program as well.

Parker (1976) has suggested that systematic training activities are on the increase in education, in business, government, and military organizations. According to Parker, the increase in job-related educational programs is in response to the accelerating pace of change in the world today. Along with an increase in the amount of job-related education, there are "mounting pressures to discover whether particular educational programs are effective" (Parker, 1976, p. 19-1). More than ever questions are being asked by heads of organizations about the tangible results of educational programs in relation to their costs. Parker believes that there is little doubt that those responsible for training will be under increasing pressure to provide answers in quantitative terms about the effectiveness of existing and proposed educational
programs, including cost effectiveness; therefore, there is increasing demand for quantitative methods of measuring outcomes of programs and ultimately in relating the measures of these outcomes in some meaningful fashion to program costs.

As with review of evaluation in general, the literature is replete with material on evaluation of training. This material is difficult to delineate, since the literature contains much on training programs in education, in business, in industry. (References to in-service training per se largely pertain to in-service teacher training in school systems.) Evaluation of educational training of adults in any of these fields may come under material on evaluating workshops, conferences, continuing education programs, or a number of similar topics. Consequently, the task of the researcher seeking a foundation for his/her research in the literature is one of compounding the features of each of these areas that are appropriate for his/her research. This practice follows Brack's (1975) suggestion that the most practical approach to evaluation is the selection of elements from a number of different evaluation models, since it is unlikely that one design or one approach will be appropriate in meeting the needs of all evaluation studies. Likewise this researcher has selected elements from the literature on evaluation of training that were appropriate for meeting the needs of this evaluation study.

Wolfe (1973) reports that after a number of pioneering studies in the 1950's, the characteristics of reliable and
rigorous evaluative research design for training have been firmly established. The ideal methodology in evaluation of training would have all the earmarks of the classic laboratory experiment. According to Wolfe evaluation methodology would have:

Quantified, accurate and objective measurement of change from the "before" training state to the "after," the strict identification and isolation of cause and effect, the use of statistically equivalent experimental and control groups which have been subjected to the same before and after measures, and at a minimum, a specification of the instantaneous and short-run effects of the training effort. (p. 20)

Wolfe concludes that in this logically foolproof design, any differences between the experimental group and the control group must be attributed to the training given and to no other source.

In evaluating a training program, Wolfe suggests that the evaluator can and should focus attention on some behavioral change in one of four areas:

1. A reaction from at least the trainee.
2. The amount of learning or attitude change that went on.
3. A difference in the way the trainee behaves once he returns from the training experience.
4. An improvement in the working unit's operating performance. (p. 21)

Wolfe notes that these four areas represent only slight modifications of Kirkpatrick's (1977) techniques for evaluating training programs (a discussion of which follows). Wolfe feels that purely academic educators must be satisfied with achieving the first three elements. Since this is evaluation
of training, however, the ultimate test of effectiveness of
the training must be met. That ultimate test is demonstra-
tion of improvement in an indicator of operational performance.
Behavior change, according to Wolfe, without operational
improvement, is a barren adventure.

Kirkpatrick (1977) divided the process of evaluating
training into four stages: (a) reaction, (b) learning,
(c) behavior, and (d) results. Kirkpatrick analyzes these
segments in terms of evidence versus proof. In measuring
reaction, an evaluation form can be used to ask participants
what they thought of the training program. If participants
are required to sign the evaluation forms or if they have a
fear of being critical, reactions are only evidence of their
feelings about the training. If evaluation forms are handled
in such a way that there is no way to identify the person
who completed it, honest reactions can be obtained which can
serve as proof of the reaction.

Kirkpatrick says that in measuring the learning of know-
ledge, skills and attitudes, proof of learning must be
obtained by measuring learning on an objective basis, by
comparing knowledge, skills, and attitudes before the pro-
gram with participants' knowledge, skills and attitudes after
the program. The difference between pretest and posttest
scores provides evidence but to obtain proof, all other
factors that could have caused changes in posttest versus
pretest scores must be eliminated. This can be done by using
experimental and control groups. The experimental group is the group that attends the training program. The control group is a like group that does not attend the training program.

According to Kirkpatrick, evidence of behavior changes that occur in participants is relatively easy to obtain through interviews at appropriate time periods following the training. Proof of behavior change involves measuring the behavior before the training program was given, measuring behavior after the training program was completed, and proving that any changes in behavior were due to the program and not to other factors. To eliminate other factors that could have caused the change, a control group must be used that is equal to the experimental group on the basis of any factors that could cause changes in behavior. Kirkpatrick states that this three-step process becomes complicated, time-consuming, and expensive but it must be done to produce proof instead of evidence.

The evaluation of results is similar to the evaluation of behavior. Evidence regarding the effectiveness of training can be readily obtained. To prove that the training program was effective, other factors would have to be eliminated that could have caused the results and again a control group to eliminate these other factors would be needed. Kirkpatrick says that evidence is much easier to obtain than proof. In some cases proof is impractical and almost
impossible to get. Evidence, therefore, should be gathered that training programs are effective—and if possible and practical, proof of effectiveness should be gathered as well.

Blumenfeld and Holland (1971) point out that the evaluation of the effectiveness of training programs has not been given adequate attention even though large amounts of time, effort and money are being spent on the development of training programs of various types and descriptions. These authors are concerned with the quality of accountability evidence, specifically with (a) the demonstration of the effectiveness of training; and (b) the quality of the evidence to demonstrate that effectiveness. They consider participant questionnaires for rating such factors as course structure, content, and quality of instruction, though they are one of the most popular procedures, as one of the least meaningful criterion measurements, since they produce positive results almost without exception.

Nadler (1976) emphasizes that "there must be a clear understanding as to why a particular workshop should be evaluated and what is to be done with the results of the evaluation" (p. 32). The following questions should be answered: "With whom will the evaluation be shared? What is expected of those who received the evaluation results? Given those who will receive it, what form(s) should it take?" (p. 32). Nadler points out that the most common way to evaluate workshops is by administering a questionnaire, which the
participants can complete during the workshop. The most appropriate time to administer the instrument is important. If it is "done as one of the culminating activities of the workshop, the data will be much different than if the instrument is sent out after the end of the workshop ... since there are several factors which can influence the way in which the participants will respond" (p. 331) at the end of the workshop. If it has been a good workshop, participants may feel happy and will answer questions in a positive manner at that particular time. "In a five-day workshop, the participants may respond based on the event of the previous evening" (p. 33). If the instrument is to be distributed on the last day and there is a banquet on the previous evening, "the data collected may reflect the feelings after the banquet rather than anything else at the workshop" (p. 33). According to Nadler, participants' responses to the questionnaire on the following day can be influenced if the food was bad, the entertainment inappropriate, seating uncomfortable or the service poor.

Nadler emphasizes that near the end of any workshop there is a period of psychological disengagement in which the participants are ready to leave and are gearing themselves to their departure. "The evaluation data they provide at this point may be superficial and misleading" (p. 33). Nadler says that "waiting until after the workshop to send out the instrument likewise presents problems" (p. 34). Once
participants return home,

they get involved in activities which absorb all their time and attention and they may put off completing the instrument for several weeks, by which time the workshop will have lost its impact. They may be able to respond only to generalities and not the specifics. (p. 34)

Nadler concludes that "there is no one best way or time to evaluate" (p. 34). He feels the "variety of possibilities should be weighed against the objectives as to why the evaluation is taking place, the nature of the participants, and what will be done with the data" (p. 34). Another matter for consideration is "whether to evaluate the workshop as a whole or whether to have an evaluation of individual sessions" (p. 34). Evaluation of the total workshop will be related to overall objectives. If outside resource persons are used, a data bank may be developed concerning them, and the information from it made available to the resource persons. The most basic data to be included would be "the result of a rating scale which indicates how participants saw the resource person in relation to the presentation, or as compared to others" (p. 34). The devices presented by Nadler constitute an integrated set or battery which will aid in replicating successful strategies and eliminating ineffective elements in the future.

Peterson (1973) in his discussion of conference evaluation expresses views that also are applicable to evaluation of in-service training programs. Peterson reports that the majority of instruments used in conference evaluation have
elicited participant reactions to various aspects of the conference once it has concluded. Peterson points out that relatively little attention has been paid to the assessment of learning outcomes or to the measurement of behavioral change following the conference. An attempt therefore should be made to assess the outcomes and benefits of a conference as accurately as possible, since the staging of an educational conference requires a considerable investment of time and money on the part of the planners, resource staff, the participants themselves. (This is also true of the staging of an interdisciplinary in-service training program.) According to Peterson the crucial outcomes are those concerned with learning and behavioral change and yet these aspects are rarely measured. Peterson therefore emphasizes that "one of the most pressing needs in conference evaluation is an increased use of systematic approaches to guide the collection, analysis, and interpretation of evaluative data" (p. 32).

Parker's (1976) summary to his chapter on measuring training results is appropriate for conclusion of this section of the review of literature. Parker is convinced that:

If this area (the measuring of training results) is dealt with by training professionals in a careful, thoughtful, and logical way, much of the mystery concerning the true measurement of results, and the apparent reluctance to attempt it, will disappear and be replaced by a constructive attitude of insistence on careful evaluation for purposes of improving training performance. Only through this constant attention to improvement will training continue to emerge and develop into the true profession that it is fast becoming.
Experience has repeatedly shown that when measurement becomes possible in a given area, that area will progress and develop at an increased rate. (pp. 19-22)

**Review Relating to Family Resource Development for the Handicapped**

This section of the review of literature is devoted to three topics that are pertinent to this particular interdisciplinary in-service training program: (a) the human ecosystem, (b) the physically handicapped, and (c) the Cooperative Extension Service.

**Human Ecosystem**

Mullis (1976) suggests that systems theory, as it applies to the human ecosystem in an interdisciplinary approach, is an appropriate framework for dealing with the complex problem of mainstreaming the handicapped into the community. Hook and Paolucci (1970) describe the focus in home economics on the interdependent relationship between man and his environment:

Ecology might have been a suitable choice of name for the area of study now known as home economics, for the term forces one to emphasize the interdependent relationship between man and his environment. In the field of home economics, this interdependent relationship basically focuses on the home as a life support system for family members; that is, provision of both physical and social nurturance. (p. 315)

According to Hook and Paolucci, home economists in meeting the challenge of man's survival can use this approach of viewing the home and/or family as an ecosystem. These authors believe that what constitutes the study of the home
as an ecosystem is Dice's (1955) definition of the term ecosystem:

Ecologists use the term ecosystem to refer to a community together with its habitat. An ecosystem, then, is an aggregation of associated species of plants and animals, together with the physical features of their habitat. Ecosystems . . . can be of any size or ecologic rank. Thus, a drop of pond water together with the organisms that live therein constitutes a small ecosystem. At the extreme, the whole earth and all its plant and animal inhabitants together constitute a world ecosystem. The concept of ecosystem emphasizes the interrelations between the group of organisms that form a community, and . . . its environment. (p. 2)

Hook and Paolucci (1970) state that home economists generally define their sphere of concern as the family, and that particular part of the near environment that impinges upon the family directly and is subject to manipulation by the family. By incorporating the concepts developed by sociologists, however, home economists can view the family as an ecosystem.

Compton and Hall (1972) describe human ecology as "the study of man's interaction with his near environment" (p. 4). The near environment, according to these authors, "includes his housing, home furnishings, household equipment, clothing and textiles, food, and family" (p. 4).

Bubolz, Eicher, and Sontag (1979) in describing the human ecosystem, start with the view of the family in its complexity and multiplicity rather than starting from one discipline's perspective. The human ecological model (Figure 1) views organisms as interacting with their environment. In the
Figure 1. A human ecosystem illustrating HEU, HBE, HCE, and NE (Bubolz, Eicher, & Sontag, 1979).

Note. HBE - human behavioral environment  
HCE - human constructed environment  
NE - natural environment  
HEU - human environed unit
human ecosystem, as it is defined by Bubolz, Eicher, and Sontag, there is interaction between a person, whom they term the "human environed unit" (HEU) with the three inter-related environments. These are: (a) the human behavioral environment (HBE), (b) the human constructed environment (HCE), and (c) the natural environment (NE). The human behavioral environment (HBE) is defined as "the environment of human beings and their biophysical, psychological, and social behaviors" (Bubolz, Eicher, & Sontag, 1979, p. 30). The human constructed environment (HCE) is defined as "an environment altered or created by human beings" (p. 29). The human constructed environment includes "modifications made by humans of the natural environment's physical and biological components and other social and cultural constructions" (p. 29). The natural environment (NE) is "the environment formed by nature with space-time, physical, and biological components" (p. 29).

The above mentioned constructs are the basic components of a human ecosystem as defined by Bubolz, Eicher, and Sontag. These authors believe that rules governing and specifying interactions within the human ecosystem must be developed in order to continue to build human ecological theory.

Human ecological theory provides the basis for interpreting interactions within the multiplicity of human conditions. It therefore can be extended to include specific groups such as the physically handicapped.
The Physically Handicapped

The physically handicapped represent a significant percentage of the total population. According to May, Waggoner, and Hotte (1974), birth defects alone account for some type of disability in one baby in every 14; and over 1,000,000 children under age 17 have some type of physical or mental handicap.

Among the nearly 40,000,000 women in the United States whose usual activity is homemaking, there are more than 4,600,000 or nearly 12 percent who are victims of such disabilities as faulty vision, arthritis, paralysis, or circulatory disease (May, Waggoner, & Hotte, 1974). It is estimated that 22 percent or over 1,000,000 Virginians have some type of handicap and that about one out of every six persons eventually will become physically limited (Schwab, 1978).

Historically the handicapped have been institutionalized, or placed in nursing homes as persons completely dependent on custodial care, with little or no training toward developing the optimum degree of independence allowed by the particular handicap; or such persons have remained at home with the family acting as custodians and have been protected from any role in society (Collins, 1973).

Recent legislation, however, has helped bring about the current trend away from institutionalization for the handicapped and toward mainstreaming of the handicapped into community life. Such legislation includes:

2. The Rehabilitation Act of 1973. This act directed that each state agency establish an order of priority for serving handicapped individuals. It also directed that severely disabled individuals receive the highest priority in providing services (Jenkins, Anderson, & Dietrich, 1976).

3. The Social Services Amendments of 1974. These amendments provided that the social services fund be directed toward the goal of achieving or maintaining economic self-support, and toward the goal of self-sufficiency, including reduction in or prevention of dependency (Schwab & Fadul, 1975).

4. The Education for All Handicapped Children Act of 1975 (otherwise known as Public Law 94-142). This act, which was designed to amend Part B of the Elementary and Secondary Education Act requires states to establish a goal of providing full educational opportunities for all handicapped children. The bill also mandates that such handicapped children be integrated or mainstreamed into regular school classes whenever possible (Rosen, Skimski, & Pimentel, 1977).
With the current emphasis on mainstreaming handicapped persons into all phases of community life wherever possible, professionals, paraprofessionals, and lay persons in the community all will be confronted with adapting to the problems unique to the physically handicapped. The goal for mainstreaming the handicapped into the community is to minimize the handicap and to maximize the likeness to the non-handicapped individual (May, Waggoner, & Hotte, 1974).

Homemaking is one of the most neglected areas in the field of rehabilitation, though homemaking is probably the oldest vocation in history (Sandler, 1971). Even though the Federal Rehabilitation Law was interpreted to include homemakers twenty-five years ago, only a few states have taken advantage of this law. Even in 1946, homemaking was declared a vocation by the Vocational Rehabilitation Administration.

According to Sandler (1971) homemakers constitute the largest group among the disabled, with a total number of physically handicapped homemakers well over 10,000,000. Sandler points out, however, that the disabled housewife is not the only one who can benefit from training in homemaking; that men with physical impairment often have to assume homemaking roles to allow other family members to work outside the home. Sandler believes that men and women with chronic illness have potential for at least partial independence through training and that children and young people with handicaps also can develop homemaking skills that may contribute to developing self-confidence and initiative.
The disruption of family life that follows disability, Sandler feels, is incalculable. If training in homemaking is not available following disability, there is both economic and human waste. Though Sandler's article is concerned more with actual rehabilitation of the homemaker prior to being released from an institution to home and community, his insight into the problems involved where there is disability in the family can be applied to those persons confined to the home who have potential for dramatic improvement in independence if training is available for them.

Switzer (1963) defines the scope of homemaking activities for the handicapped as follows:

Homemaking activities—whether carried out by men, by women, or by children—contribute to the welfare of the family and to its economic productiveness and well-being. Homemaking itself is a composite of physical tasks, managerial functions, spirit, and emotional climate that holds the family or personality together and fosters development. Damage to this complex at any point weakens its total capacity to function. Where possible, the damage, must be repaired; where this is not possible, other measures must be taken: Perhaps the environment can be changed so that the function can continue. Perhaps other areas of the complex must be brought into greater prominence and use; perhaps the very depths of personality must be touched and a new role learned.

Sandler (1971) suggests that Switzer's definition implies that homemaking is much more than the development of work skills alone. Sandler lists six areas in which rehabilitation of the homemaker may be defined:

1. Work simplification and selection and adaptation of household equipment.

2. Remodeling or rearranging of home facilities.
3. Clothing selection and care.
4. Psychologic needs and family relations.

All of these areas listed by Sandler were included in the project on which this research was based, Family Resource Development for the Handicapped.

According to the 1969 United States Census there are approximately 50 million women keeping house throughout the United States. Approximately 10 percent of these homemakers have difficulty in performing homemaking activities due to some type of physical ability (Schwab, 1975). Schwab suggests that families often experience economic hardships and extreme emotional stress when the homemaker is unable to perform homemaking activities or manage family resources. According to Schwab, the major helpers in household activities of the homemaker with physical disability are the children and youth in the family, not the husband. Schwab therefore, believes that a family approach to rehabilitation of the homemaker may have merit, and that homemaker rehabilitation not only helps the homemaker find self-fulfillment but helps in fulfillment of other members of the family.

Nau (1973) also believes in the concept of family rehabilitation. According to Nau:

The concept of family rehabilitation is based upon the premise that when a disability strikes, every other member of that family is also adversely affected.
Thus, it is postulated that disability is rarely simple when present with or aggravated by other family-oriented problems. Rehabilitation services in such cases must be intensive and comprehensive, designed and delivered in a manner to meet the disability needs of the family, as well as the disabilities of individual members.

Whereas the home economist is not directly concerned with rehabilitation of those with physical disabilities, unless she/he has had specialized training in this area, the home economist is trained in improving the quality of living for all family members. The trend toward family rehabilitation is important in training home economists (and specifically, in the project with which this research is concerned, Extension home economists) help improve the quality of living for the handicapped by becoming trained not only in the problems of the handicapped but in understanding the impact of these problems on the entire family.

According to Rosen, Clark, and Kivitz (1977), the term 'rehabilitation' usually connotes the restoration of a former capacity. These authors define habilitation, however, as "a process by which various professional services are utilized to help a disabled individual make maximal use of his capacities in order that he might learn to function more effectively" (p. 1). It is with this role of habilitation that the home economist is concerned. Home economists through learning the special needs of the disabled can be trained in the role of habilitation of such persons in the home and in the community. Such training would be geared toward teaching new skills rather than in restoring skills lost by illness or injury, as in rehabilitation.
The Cooperative Extension Service

The Cooperative Extension Service utilizes the services of more home economists nationally than any other organization. Extension home economists from the Family Resources area of the Cooperative Extension Service were the group participating in the interdisciplinary in-service training with which this study was concerned. This section therefore is devoted to a review of the literature pertaining to The Cooperative Extension Service itself.

The Cooperative Extension Service is the world's largest publicly supported, informal adult education and development organization (Boone, 1970). Boone describes the history of Extension as having been one of innovation, with over half a century of recognized achievement. Boone describes the programs of Cooperative Extension as having "enabled both rural and urban people to acquire knowledge and skills needed to adapt to changing social, economic, and cultural conditions" (p. 265).

Extension is dedicated to "the development of people themselves, to the end that they, through their own initiative, may effectively identify and solve the various problems directly affecting their welfare" (U.S. Dept. of Agriculture, 1948). The primary way in which this goal of Extension is met is by extending and interpreting the research findings of the U.S. Department of Agriculture and the State Land-Grant institutions to the people through county and area Extension offices (Boone, 1970).
The Cooperative Extension Service has developed an ingenious system of programming that utilizes the collaborative efforts of professional and lay leaders in developing educational programs designed to meet immediate and projected needs of the people. (Boone, 1970, p. 273)

In Virginia, Cooperative Extension Service resources are available through the Virginia Polytechnic Institute and State University at Blacksburg, and through Virginia State University at Petersburg. One of the program areas of Cooperative Extension is Extension Family Resources, with educational programs designed to improve the quality of living for individuals, families, and communities (Extension Division, VPI&SU, 1975).

The mission of Extension Family Resources as a program area of Virginia Tech Cooperative Extension is "to assist people in identifying their needs and improve the quality of living for individuals, families, and communities" (Extension Division, VPI&SU, 1975). The major purposes of Extension Family Resources are to:

1. Enhance the quality of people's decision making and help them develop the knowledge and skills needed to carry out these decisions.

2. Help individuals and families improve their ability to adapt effectively to economical and societal changes.

3. Increase the ability of people to recognize and identify needs which affect individual and family living quality.

4. Increase the ability of individuals and families to use and participate in the development of community services that affect their lives. (Extension Division, VPI&SU, 1975)
Six areas of major concern are emphasized in Extension Family Resources. These include:

Nutrition
Consumer Concerns
Children and Families
Housing
Health
Community Development

The approach to these areas of concern in program development is one of problem solving rather than subject matter orientation. An interdisciplinary approach to problem solving has been adopted by Extension Family Resources. This interdisciplinary approach involves all colleges and departments of Virginia Polytechnic Institute and State University (VPI&SU) and Virginia State University, as well as the resources of other groups, agencies, organizations, businesses, etc.

Health, which is one of the six areas of concern, is considered to include a "complementary balance of physical, emotional, and social well-being not just an absence of illness" (Extension Division, VPI&SU, 1975, p. 18). Extension Family Resources feels that the state of an individual's health affects his whole being, which in turn may affect those around him. The major priority of the health area of concern is to:

Recognize and utilize preventive health care measures throughout the life cycle to enable each individual to reach maximum potential and, in turn, benefit family community and society. (Extension Division, VPI&SU, 1975, p. 18)
Of the several areas of concern that come under the health category, Extension Family Resources lists "rehabilitation of handicapped."

Boone (1970) reports that the Cooperative Extension Service has amassed one of the most competent group of professional adult educators in the world. Basic education for county level positions is at least a baccalaureate degree. Positions at the state or area level require at least the master's degree. Boone states that the Extension Service also has a comprehensive professional development program based upon a continuing analysis of the training needs and desired levels of staff competency in relation to changing job expectations and requirements.

In-service training has long been a goal of the Cooperative Extension Service (Collings, 1966). A study published jointly in 1948 by the U.S. Department of Agriculture and the Association of Land-Grant Colleges and Universities contains a chapter entitled "Training and Professional Status of Extension Workers." An excerpt from this chapter reads:

Extension work today demands an educational background especially designed to fit workers for the profession. The basic philosophy should be to have Extension workers as well trained as possible in broad fundamentals during their undergraduate work, and to develop them into well qualified, technical persons by in-service training after they are employed. (p. 42)

The report further states that the goal of Extension training is to prepare Extension workers who:
(1) are basically grounded in the physical and social sciences of significance to life in rural America; (2) are familiar with reliable sources of important information; (3) understand the background, philosophy, objectives, policies and organization of the Extension system; (4) are skillful in applying principles of psychology and education to Extension teaching, supervision and administration; (5) can organize rural people and stimulate leadership among them; (6) understand the processes by which rural people and Extension workers cooperating can analyze local problems, arrive at potentially sound solutions and develop a county Extension program; (7) know the problems and procedures of adult and out-of-school youth education; (8) are skillful in organizing, interpreting, and presenting basic economic, social, technical, and scientific data, and their implications in rural life; (9) understand the techniques and processes of evaluating the effectiveness of Extension programs. (p. 43)

The word rural was omitted from this report in 1960 when these goals were reaffirmed by a national Task Force on Extension In-Service Training.

In addition to an emphasis on in-service training, Cooperative Extension emphasizes the process of evaluation in its programming to determine the extent to which the objectives of the programs of the Cooperative Extension Service are attained (Boone, 1970). This evaluation process also is concerned with evaluating level of performance of professional staff members in relation to defined role expectations.

Evaluation in Extension has largely been involved in program evaluation of Extension programs in the various subject matter areas: (a) foods and nutrition; (b) family resource use; (c) clothing and textiles; (d) housing; and (e) family development. Steele (1970) reported that for
years educational evaluation in Extension was involved with:

The process of determining the change in behavior of people resulting from extension educational programs. (Sabrosky, 1966, p. 339)

or

Evaluation is the process of determining the extent to which objectives have been attained. (Thiede, 1964, p. 291)

These definitions guided major Extension program evaluations almost exclusively.

Steele states that much of the framework for this concept of evaluation was drawn from the Tyler (1950) approach to curriculum development, which involved comparing performance with previously stated objectives.

More recently evaluation of Extension programs has incorporated some aspects of the contemporary approaches to evaluation such as those listed by Steele (1973). Bennett (1975) has developed a hierarchy for Extension program evaluation which contains seven categories of criteria for evaluating Extension programs: (a) inputs; (b) activities; (c) people involvement; (d) reactions; (e) KASA change (change in knowledge, attitudes, skills, and aspirations; (f) practice change; and (g) end results. Evidence of program accomplishments should be attained at selected levels of the hierarchy.

Bennett (1975) gives three guidelines for determining at which of the seven levels evidence should be obtained:

1. Evidence of program impact becomes stronger as the hierarchy is ascended.
2. The difficulty and cost of obtaining evidence of accomplishments increases as the hierarchy is ascended.

3. While hard evidence is usually ideal, it's more expensive and difficult to obtain. (pp. 8-9)

Bennett concludes that without sufficient evidence of program accomplishments, program success cannot be judged nor sound decisions be made regarding future programs.

Steele (1975) outlines the importance of evaluating the "parts" (project) as well as the "whole" (program). Steele says that "project evaluation is concerned primarily with a specific project or program activity. Program evaluation is concerned with the additive effects of a series of instructional components" (p. 13).

Project evaluation is usually mostly concerned with knowledge, skills, and attitude change, and program evaluation is concerned with the impact that these changes and program participation have on the person and those he/she is in contact with. (p. 14)

Project evaluation is more apt to deal with how the program satisfies the specific needs of individual learners; program evaluation is more apt to deal with how the program meets the needs of the community, or a subsection of society. Program evaluation includes project evaluation, but deals with additional things.

Program evaluation doesn't substitute for project evaluation; and project evaluation doesn't substitute for program evaluation. It is possible to do a good job of project evaluation--without ever really doing program evaluation. (Steele, 1975, p. 14).

Johnson (1977) has defined evaluation:
Evaluation is more than collecting statistically significant data. It is looking at information collected in light of what was tried, and then making a judgment about the program's worth. (p. 2)

Though his definition refers to informal adult learning programs, his definition can be adapted to in-service training programs in Extension as well.

Bolton (1977) has defined program evaluation as "the systematic accumulation of information used to judge the worth, desirability, effectiveness, or adequacy of a program, according to definite criteria and purposes." Though Bolton's definition was intended for a total adult education program, it, too, lends itself readily to evaluation of in-service training programs in Extension.

The purpose of this cursory look at evaluation in Extension was to provide a short overview of the aspects of evaluation with which Extension traditionally has been most concerned, namely, project and program evaluation as mentioned above. Though continuing education for Extension personnel long has been one of the major focuses of Cooperative Extension, the extent of evaluation of such continuing education programs customarily has been limited to informal evaluation through participant satisfaction surveys. Evaluation as far as this study is concerned therefore is involved with in-depth evaluation of an innovative continuing education program, Family Resource Development for the Handicapped, which utilizes the interdisciplinary approach to training.
The purpose of this chapter is twofold: first, to present an evaluation model based on the concepts set forth in the review of literature; and secondly, to utilize this model to evaluate the effectiveness of the interdisciplinary training program entitled "Family Resource Development for the Handicapped." This training program was an in-service training program sponsored by the Cooperative Extension Service, Virginia Polytechnic Institute and State University, in conjunction with Title I of the Higher Education Act, to train Extension agents to work with the physically handicapped in the community.

The model presented in this section is, as suggested by Brack (1975), the result of the selection and adaptation of elements from a number of different evaluation models. The model also includes additional components that are unique to or particularly important for programs of an interdisciplinary nature.

A schematic diagram of the model showing the hierarchy of steps in evaluating interdisciplinary in-service training programs is shown in Figure 2. The model incorporates the
Figure 2. A model for evaluation of interdisciplinary in-service training programs (Grainger, 1979).
view of an in-service training program as a temporary educative system, as propounded by Miles (1964a) and by Dickinson and Lamoureux (1975).

The Evaluation Model

The model developed by this researcher can be used for evaluating the effectiveness of any interdisciplinary in-service training program. It is designed to simplify the evaluation procedure. The model entails a systems approach to evaluation of interdisciplinary in-service training programs, based on Miles' (1964a) theory of educative systems. The systems approach, involving the use of data from the temporary system (in which the training takes place) and from the permanent system (from which the trainee enters the training program and to which he/she returns once the program has been terminated), is a vital component of the model.

The model is divided into three phases: (a) the pretraining assessment in the permanent system, (b) the posttraining assessment in the temporary system, and (c) the posttraining assessment in the permanent system. The evaluator enters the model during the pretraining assessment phase with identification of the problem.

Once the problem has been identified, an auxiliary step is to establish criteria for assessing the need for interdisciplinary in-service training to help solve the problem. The final decision, however, as to whether to use the
interdisciplinary approach to training should be based on the complexity of the problem, and the determination of whether its complexity warrants the use of an interdisciplinary team to focus on the solution to the problem.

Once the need for an interdisciplinary team has been identified, the members of that team should be selected and the goals and objectives of the interdisciplinary training defined. Since the determination of the accomplishment of these goals and objectives will be a component of the evaluation process, it is important at this point to educate members of the team regarding the purpose and process of evaluation.

In addition to identifying objectives of the training program, objectives for evaluation of the interdisciplinary training program should be defined. It should be emphasized that these evaluation objectives will differ from evaluation objectives of the disciplinary approach to training.

The next step in the hierarchy is the establishment of criteria for determining the effectiveness of the interdisciplinary training program. There are three components to this process: (a) criteria for determining effectiveness in the temporary system; (b) criteria for determining effectiveness in the permanent system; and (c) criteria for determining the overall effectiveness of the interdisciplinary in-service training program. These three may overlap or each may be different.
An important step is the process of identifying the subjects for interdisciplinary in-service training. In experimental designs, the subjects are randomly selected and assigned to a treatment group or a comparison group. In in-service training programs, random selection of subjects is not usually possible since participation often is voluntary, or participation may be mandatory for a specified group. If random selection of subjects is not possible, comparison subjects should be matched with training subjects well in advance of the onset of the training program. It is of prime importance that the training subjects be persons who will be able to utilize the training to the fullest in the permanent system.

Pretraining data to be used in the evaluation process can then be identified for the training subjects and comparison subjects. Identification of pretraining data needed for the evaluation process should be based on performance data. This data will be used to compare performance of the treatment group and the comparison group following the training. Once identified, such data should be collected at this point in the model.

Evaluation instruments appropriate for an interdisciplinary in-service training program should be identified so as to reflect data from each discipline represented in the training program. Once the appropriate instruments have been selected, these instruments should be developed.
specifically for collecting data of an interdisciplinary nature. An important component of this step is to determine the optimum time for administering the evaluation instruments: (a) in the temporary system; and (b) in the permanent system. In the temporary system, this would include determining whether an instrument(s) should be administered at the beginning of the training, during the training, or at the conclusion of the training. Consideration should be given to a pretest administered during the preassessment period well in advance of the onset of the training program.

Effectiveness of the training program as viewed by the training participants themselves can be determined from an evaluation instrument administered at the conclusion of the training program prior to the exit into the permanent system. This instrument could include a rating scale and appropriate subjective questions. Both the rating scale and the subjective questions should be geared to providing evidence as to the effectiveness of each discipline included in the interdisciplinary training.

Follow-up evaluation in the permanent system once the training has terminated should be conducted at predetermined time interval(s), and instrument(s) appropriate for each particular training program developed accordingly. The time interval(s) in the permanent system may vary with each particular program.

The preceding steps constitute the pretraining assessment phase of the evaluation process. The next phase is the
posttraining assessment in the temporary system, followed by the third phase, or posttraining assessment in the permanent system. The steps are identical in each of these phases except for variations due to differences between the temporary system and the permanent system.

The first step in the assessment in the temporary system is to educate the participants in the interdisciplinary in-service training regarding the purpose and process of evaluation. Appropriate evaluation instrument(s) then should be administered at the predetermined time interval(s). Data from each instrument should be collected for each discipline. Data from each instrument should be analyzed for each discipline. In addition, the training data from all disciplines should be analyzed collectively.

The posttraining data should be compared with the pretraining data identified during the preassessment phase. The data identified for the temporary system will vary from that identified for the permanent system. The effectiveness of the in-service training during the life of the temporary system then can be determined, based on the criteria stated in the pretraining assessment.

The same steps should be followed for the posttraining assessment in the permanent system. The appropriate instrument(s) should be administered at the optimum time interval(s). The optimum time for administering instruments to be used in determining effectiveness of the training in the permanent
system will depend on the type of interdisciplinary training and the purpose of the particular training program.

The appropriate instrument(s) should be administered at the predetermined time interval(s) for the permanent system. Data should be collected and analyzed for each discipline. Data from all disciplines should be analyzed collectively.

In addition to data from the administration of any follow-up instrument(s), other appropriate data should be collected and analyzed for comparing the posttraining state with the pretraining state. It should be emphasized that determination of the effectiveness of the interdisciplinary in-service training program in the permanent system will be based on criteria stated in the pretraining assessment. Use in the permanent system of the behaviors learned in the interdisciplinary in-service training program is crucial to the success of the training program itself.

Throughout this model the establishment of criteria for determining the effectiveness of interdisciplinary in-service training has been stressed. When criteria have been prestated for the temporary phase of the training and for the permanent phase of the training, determination of the effectiveness of the training in these phases will be greatly simplified.

Determination of the overall effectiveness of the total training also is based on prestated criteria. It incorporates the results of the determination of effectiveness
during the life of the temporary system and during reentry into the permanent system. The ultimate effectiveness of the training in some instances cannot be determined until a considerable amount of time has elapsed. If criteria state that the effectiveness of a training program will be determined by the trainee's working with 25 persons, for example, in an interdisciplinary way to solve a particular problem, a period of time extending over two to three years might occur before that trainee comes in contact with the pre-stated number of clients.

The final step in this evaluation model is the utilization of the results in key decisions that affect future interdisciplinary in-service training programs. When evaluation is executed for the purpose of decision-making, the results of that evaluation must be utilized in making decisions that affect the program in the future. If the results are not utilized in the decision-making process, there will have been no need for the evaluation itself.

Application of the Model

Brack (1975) believes that "evaluating innovative projects can be a challenging exciting undertaking" (p. 46) and that new approaches to evaluating such projects must be tested. Family Resource Development for the Handicapped was an innovative project; the development of a model to include pre-training assessment in the permanent system, posttraining assessment during the life of the temporary system, and
posttraining assessment following reentry into the permanent system was a new approach to evaluating an innovative project. This approach to evaluation was tested by evaluating the innovative project, Family Resource Development for the Handicapped.

The purpose of this section is to present an overview of the nature of the interdisciplinary in-service training program, Family Resource Development for the Handicapped, and to present the procedures used in evaluation of the effectiveness of this interdisciplinary training program. This section includes (a) a discussion of Family Resource Development for the Handicapped; (b) identification of the subjects used in the study; (c) the design of the study; (d) the selection and development of the evaluation instruments; (e) the data collection techniques; and (f) the selection of the method of data analysis.

**Family Resource Development for the Handicapped**

Family Resource Development for the Handicapped was an interdisciplinary/residential in-service training program to train Extension home economists to handle problems unique to the physically handicapped by improving the quality of living for handicapped individuals and their families in the community. Twelve Extension agents participated in the training, all of whom were self-assigned participants.

The in-service training was designated as a workshop because it was a component of a conference entitled "Community
Consumer Education Awareness." This conference was held at
the Donaldson Brown Center for Continuing Education, Vir-
ginia Polytechnic Institute and State University, Blacksburg,
Virginia, from January 30 to February 1, 1978; Family Resource
Development for the Handicapped was held from January 30 to

The conference participants were a group of over 200
community leaders, representing a broad base of various
concerned consumer groups throughout the Commonwealth of
Virginia. Among the participants were Extension leaders from
the Virginia Polytechnic Institute and State University and
Virginia State University.

While Family Resource Development for the Handicapped
was an in-service training program to train Extension agents
to solve problems unique to the physically handicapped in the
community, it was open to any of the participants in the
Community Consumer Education Awareness Conference. Conse-
quently 60 persons from the conference attended one or more
of the individual sessions that made up Family Resource Devel-
opment for the Handicapped. A diagram indicating the compo-
nents of Family Resource Development for the Handicapped
within the larger Community Consumer Education Awareness Con-
ference is shown in Figure 3.

The in-service training program was comprised of work-
shops on mainstreaming the handicapped into the community.
These workshops were conducted by rehabilitation consultants
Figure 3. Relationship of Family Resource Development for the Handicapped to the Conference on Community Consumer Education Awareness.
and by a Family Resource Development team consisting of Extension specialists from the Virginia Cooperative Extension Service (see Appendix A for agenda of training program).

The Extension specialists were representatives of either the Extension division at Virginia Polytechnic Institute and State University, Blacksburg, Virginia, or at Virginia State University, Petersburg, Virginia, and were faculty members of these respective institutions.

Each member of the Family Resource Development team represented one of the Family Resource subject-matter areas: (a) foods and nutrition; (b) family resource use; (c) clothing and textiles; (d) housing; or (e) family development.

A workshop on mainstreaming the physically handicapped into the community was held in each of these subject-matter areas. In addition to workshops on the subject-matter areas, one of the workshops focused on the interdisciplinary approach to training. Since each category represented a different discipline, the training team was considered interdisciplinary in nature.

In addition to the interdisciplinary workshops, there were three preliminary workshops on different phases of rehabilitation of the handicapped. These workshops were conducted by rehabilitation consultants (see Appendix A). The final workshop, on involving the community in rehabilitation, was conducted by a graduate researcher from Virginia Polytechnic Institute and State University who was an Extension agent on educational leave.
Identification of Subjects

The population for this study consisted of the 12 Extension home economists who participated in the in-service training program. These agents represented 12 Extension units and 10 different Extension Division Planning Districts of the Commonwealth of Virginia (see Appendix B). These 12 Extension agents all volunteered to participate in the interdisciplinary training program on the handicapped.

A comparison group consisted of nine Extension agents attending the Community Consumer Education Awareness Conference who volunteered to serve as the comparison group. Identification of both of these groups varied from the model because of circumstances beyond the control of the evaluator.

Design of the Study

Parker (1976) states that any systematic discussion of quantitative methods for evaluation must flow from an underlying model of the design of the program itself and the measurement of the results. The design used in the training program, Family Resource Development for the Handicapped, was the seven-step model suggested by Parker (see Figure 4). Parker feels that proper measurement of results of training programs cannot be conducted without careful attention to program objectives, since measuring results implies some criteria against which the obtained results can be compared. The program objective for Family Resource Development for the
Figure 4. Training design used in program (Parker, 1976, p. 19-2).
Handicapped was: to utilize a Family Resource team composed of Family Resource and educational specialists to develop a multidisciplinary educational approach designed to assist the handicapped and their families as they function in their homes and communities (see Appendix C). A subobjective of this program objective was: to evaluate the effectiveness of this approach in assisting handicapped persons to function more effectively in their homes or communities. This subobjective constituted the basis for this study.

The basic experimental design for the evaluation component of the training program design is shown in Figure 5. The pretraining measure was a performance measure using baseline data six months prior to the training, on work days expended on projects for the handicapped by the group of 12 Extension agents participating in the training. The post-training measure was a performance measure of work days expended on projects for the handicapped by those agents during the six months following conclusion of the training. Performance data was obtained for the comparison group of nine Extension agents for the same periods of time.

The criterion for determining overall effectiveness of this training program was the demonstration of an increase in total work days expended on the handicapped by participants in the training for the six months' period following the training compared to the six months' period prior to the training. This increase was to be in the total number of
Figure 5. Basic design for evaluation component.
work days expended by the participating agents in the five subject matter areas.

An appropriate design (Parker, 1976) that could have been used to measure change in knowledge as a result of the training program is shown in Figure 6. The training group (Experimental group) was the group of 12 Extension agents participating in the training; the comparison group (Control group) was the group of nine Extension agents attending the conference but not participating in the training. The design used varied from Parker's, since in this study a systematic procedure could not be used in matching these groups because the groups were self-assigned. The two groups were similar in that the subjects from both groups were Extension agents; all had a college degree; all were female; all were attending a conference at a residential continuing education center. The groups were unequal in number, however, with 12 agents comprising the training group and nine agents the comparison group. Identification of the subjects to be trained and the matching of these subjects with a comparison group has been emphasized in the model.

Campbell and Stanley (1963) term such a design the static group comparison, which is a pre-experimental design in which a group which has experienced a treatment (X), in this case, the training program, is compared with one which has not, for the purpose of establishing the effect of the treatment (X). The design for static group comparison indicated by Campbell and Stanley is:
Figure 6. Posttraining measurement with control group design (Parker, 1976, p. 19-5).
\[
\begin{array}{c}
X \\
\hline
0_1 \\
0_2
\end{array}
\]

where \(0_1\) = posttest for group that experienced the treatment (training)

\(0_2\) = posttest for group that did not experience the training.

Campbell and Stanley say that in contrast to the true experimental design, there are no means of certifying that the groups would have been equivalent had it not been for the treatment (X). The absence of such certification, in this case the training, is indicated by the dashed lines separating the two groups. Campbell and Stanley suggest, however, that matching on background characteristics other than \(Q\) is usually ineffective and misleading, particularly in those instances in which the persons in the experimental group have sought out exposure to the \(X\), as was the case in this training program.

Miles (1964a) has identified conferences, workshops, and other intensive adult education methods as temporary systems. Dickinson and Lamoureux (1975) term residential programs that bring a number of participants into intensive contact for an anticipated duration of time as educative temporary systems. Included in the framework of educative temporary systems are residential in-service training programs, such as Family Resource Development for the Handicapped, with which this study is concerned. In pure temporary systems, all participants enter and leave the system at the same time, as was the intent of this training program. Evaluation of educative
temporary systems usually includes an instrument designed to measure participant satisfaction with the design and management of the educative temporary system and in some instances a measure of cognitive achievement (Dickinson & Lamoureux, 1975).

Based on the view of the in-service training program as a temporary educative system, this researcher developed a design for evaluation of this particular in-service training program. The model for this design is shown in Figure 7. This design is an elaboration of the basic design for the evaluation component shown in Figure 5. It incorporates measures in the permanent system prior to the interdisciplinary training measures.

This model represents evaluation of a pure temporary system where participants exit from the same permanent system (in this instance the Extension units in the communities throughout the Commonwealth of Virginia); enter the temporary system (the training program) at the same designated time as an intact group; exit from the temporary system as an intact group at the same designated time; and re-enter the permanent system, where it is assumed they will utilize the training from the permanent system. Quantitative baseline data must be obtained from the permanent system prior to entry into the temporary system and following reentry into the permanent system before effectiveness of the training can be measured.
Figure 7. Design for evaluation of interdisciplinary in-service training program (Grainger, 1979).
Selection and Development of Evaluation Instruments

The fundamental purpose underlying the design and management of educative temporary systems is that the learning acquired or behavioral change initiated should be transferred to the permanent system.

Based on this view of the in-service training program as a temporary educative system, and with the premise that learning acquired or behavioral change initiated in the temporary system (the training program) should be transferred to the permanent system (the community), three evaluation instruments (see Appendix D) and a demographic profile (see Appendix E) were selected. The demographic profile was to be administered to participants upon entry into the temporary system. The evaluation instruments included: (a) a cognitive instrument to be administered to participants during the course of the temporary system; (b) an evaluation instrument to be administered at exit from the temporary system; and (c) an evaluation instrument to be administered after reentry into the permanent system.

Evaluation Device for Measuring Cognitive Achievement

An instrument was selected to measure cognitive achievements resulting from the interdisciplinary training program (see Appendix D). This instrument was divided into six sections, with each section representing one of the six workshops that actually comprised the in-service training. These six workshops included the five subject-matter areas and the workshop
on the interdisciplinary approach. Equal emphasis was given in the instrument to each of these six workshops.

The instrument was developed in the form of a multiple-choice-item test. This format was chosen because it can effectively measure simple learning outcomes as well as more complex learning outcomes in the areas of knowledge, understanding, and application (Gronlund, 1976). The instrument consisted of 30 multiple-choice items, with five items from each of the five disciplines and five items on the interdisciplinary approach.

The instrument was drafted by the Extension specialists who made up the interdisciplinary training team. The specialist from each discipline constructed the five items for his/her discipline, with the learning outcomes to be measured being based on the lesson plans for the workshop for each discipline.

Validity of the instrument was established through a panel of experts consisting of (a) the interdisciplinary training team; (b) a faculty member from the College of Home Economics of Virginia Polytechnic Institute and State University, who was not a member of the team; and (c) a measurement and evaluation consultant. This panel judged the test to be valid for measuring simple learning outcomes resulting from the training. To test for clarity and ambiguity of the test questions, the instrument was administered to a group of nine seniors and graduate students in the College of Home Economics of Virginia Polytechnic Institute and State
University. After the instrument was administered to the students in the College of Home Economics, minor revisions were made, and the instrument again was reviewed by the same panel of experts.

This cognitive instrument was one of a battery of instruments used to assess effectiveness of the interdisciplinary approach to training. It therefore should be considered as only one factor of evaluation, rather than as the key factor. It was designed to demonstrate behavioral change in the knowledge area as a result of training.

Evaluation Instrument Administered at Exit from Temporary System

This instrument (see Appendix D) was developed with a threefold purpose in mind: (a) one was to obtain a measure of participant satisfaction with the design and management of the training program; (b) another was to given an immediate measure of the effectiveness of the in-service training; and (c) the third was to provide insight helpful in decision-making to offer this in-service training program again in the future. The instrument was similar in nature and design to other instruments reviewed by this researcher that customarily are used for the same purposes.

The instrument was developed in two parts. Part I consisted of five opinion-positive statements with forced-choice responses. Responses included: (a) agree, (b) tend to agree, (c) tend to disagree, and (d) disagree. Part II of the instrument consisted of four questions with open-ended forced-choice and subjective responses.
Whereas the cognitive instrument was an objective measure of learning, this instrument was a subjective measure of the effectiveness of selected aspects of the in-service training. Popham (1975) states that a considerable number of researchers are critical of any measuring device that involves subjective judgments since subjectivity involves an opinion based on personal experience. Popham points out, however, that evaluators cannot dismiss all subjective measurements, because sometimes the very phenomena that are the most difficult to measure objectively will be those that are most worth measuring. If the evaluator is searching for qualitative judgments, Popham asserts that the employment of subjective approaches, such as rating scales, is imperative.

Evaluation Instrument Administered after Reentry into Permanent System

A follow-up evaluation instrument (see Appendix D) was developed to be administered to the participants following reentry into the permanent system. This instrument was in the form of a summative questionnaire, which was mailed to each of the 12 participants three weeks after conclusion of the in-service training. The purpose of this questionnaire was to provide a reflective view of the effectiveness of the in-service training.

The instrument consisted of seven questions, the basis of which were five questions suggested by Alford (1974) as an evaluation device for intensive residential continuing education programs. These five questions were:
1. Was the in-service responsive to your individual needs? Explain.

2. What was the single most effective learning experience in the in-service? Why?

3. What was the single least effective learning experience in the in-service? Why?

4. What one activity not included in the in-service would you recommend to be added in the future? Why?

5. What is your overall evaluation of this in-service? Explain.

Alford explains that the first and fourth questions provide specific insights into individual participant perceptions; the second and third questions provide information immediately useful in modifying the training for future presentation; and the final question provides an opportunity for participants to explain or modify some of their previous answers. The final question also provides a reference scale for judging the intensity of favorable or unfavorable statements in the first four answers.

In addition to the five questions based on Alford's evaluation device, two other questions were posed in the follow-up questionnaire:

1. Why did you choose this particular in-service?

2. Did you feel the interdisciplinary approach, i.e., all subject matter areas focusing on one problem, was more effective or less effective than if the focus had been limited to one subject matter area? Why?

The answer to the first of these two questions should provide insight into the needs of the participants as well
as information useful in modifying the training for future presentation. The answer to the second question should provide important information as to the value of the interdisciplinary approach to each participant as well as important information in making decisions to use the interdisciplinary format in future in-service training programs.

Alford suggests a two- to three-week time period after the participants have returned home, for administration of this instrument. He developed questions specifically for this mail-back questionnaire so that the answers would contain a maximum amount of useful evaluative information, in a minimum of questions. Alford concludes that the most important and useful thing about a set or battery of evaluation devices is that each device is useful individually but that all used together provide considerably more information than the sum of the parts.

Data Collection Techniques

Data were collected during the in-service training program, from January 30-February 2, 1978, and three weeks following the conclusion of the training program. In addition, baseline data were collected for the period six months prior to the training (July 1, 1977 through February 1, 1978), and for the period six months following the training (February 2, 1978 through June 30, 1978).

Data from two of the instruments were collected from the 12 Extension agents who participated in the training and
from the nine Extension agents who attended the conference but did not participate in the training; these were the demographic profile and the cognitive instrument. Data from this group of agents who did not participate in the training were used to determine group differences in the analysis of the data.

The demographic profile and the cognitive instrument were administered to the group of nine agents attending the conference, at the outset of the conference. The demographic profile was administered to the 12 agents in the training program at the beginning of the in-service. Since the cognitive instrument was divided into six sessions, the first on the interdisciplinary approach, and the other five on each of the Family Resource subject-matter areas, the appropriate section was administered at the conclusion of each of six workshops that corresponded to these subject-matter areas.

The first evaluation instrument was administered to the 12 participants at the conclusion of all of the sessions that constituted the in-service training program. The follow-up evaluation instrument was administered by mail to the 12 participants in the training three weeks following conclusion of the training program.

Selection of Method of Data Analysis

Data from all three instruments used in this evaluation and from the demographic profile were obtained from the group of agents participating in the training. Data from the
cognitive instrument and from the demographic profile were obtained from the group of agents attending the conference. The total number of subjects was 21, with one group comprised of 12 subjects and the other group of 9 subjects.

Since the participants in the training group and the members of the comparison group were not randomly chosen, descriptive statistics rather than inferential statistics were used in analysis of the data. Scores on the cognitive test for each discipline were determined for each member of each group and the average scores for each discipline were compared.

Method of Data Analysis for Evaluation Instruments

Descriptive statistics were used for analysis of the data from both evaluation instruments. Analysis was accomplished by hand tabulation of the frequency distribution of categorized responses to questions contained in the instruments, and determination of cumulative frequencies and percentages; by recording of responses exactly as they appeared in the instruments where more effective, or where categorized responses were not possible (unless slight changes in wording were needed for clarification of meaning); and by determination of intensity of responses.

Method of Data Analysis from Demographic Profiles

The demographic profile contained eight categories, three of which were not pertinent data. Data from all
categories were tallied by hand tabulation. The data from the training group were then compared descriptively with data from the comparison group.

Method of Obtaining Baseline and Follow-up Data

In addition to the data obtained from the above four instruments, data was obtained to be used in quantification of the effectiveness of the interdisciplinary approach to training Extension agents to solve problems unique to the handicapped in the community. This data consisted of baseline data obtained six months prior to the training and follow-up data obtained six months following the training.

The data consisted of work days spent on projects for the handicapped in 16 areas of work in the Extension Family Resources program, both for the agents participating in the training and for the comparison group of agents. This data was retrieved from progress reports, by computerized retrieval through the Virginia Extension Management Information system, for the period July 1, 1977 through February 1, 1978, and for the period February 2, 1978 through June 30, 1978. Analysis was done by calculator to determine distribution of work days expended on the handicapped, as well as cumulative frequencies and percentages.

Congruence of Evaluation with Model

The evaluation of Family Resource Development for the Handicapped was congruent with the model with the following exceptions:
1. The evaluator did not enter the model at the point of identification of the problem but entered the model at the point of identification of the evaluation instruments.

2. The interdisciplinary team was not instructed in the purpose and process of evaluation as it applied to this interdisciplinary project.

3. Criteria for determining the overall effectiveness of the interdisciplinary program were not established by the evaluator during the pretraining assessment phase but during the posttraining assessment phase in the permanent system.

4. The subjects for the interdisciplinary in-service training program were not randomly selected nor were the comparison subjects matched with the training subjects. Both groups were comprised of Extension agents, Family Resources, who volunteered to participate in the training group or in the comparison group.

5. The pretraining data needed for the evaluation process was not identified nor collected during the pretraining assessment phase but during the posttraining assessment phase in the permanent system.

6. The Extension agents participating in the training were not instructed as to the purpose and process of evaluation.
CHAPTER IV

ANALYSIS OF THE DATA AND INTERPRETATION OF RESULTS

In this chapter, analysis of the data from the four instruments will be presented: (a) the demographic profile, (b) the cognitive posttest, (c) the evaluation instrument administered at the conclusion of the in-service training, and (d) the follow-up evaluation instrument administered by mail three weeks after conclusion of the in-service. In addition, baseline data regarding contact with the handicapped by the agents following return to the permanent system will be presented.

Analysis of Data from Demographic Profiles

A demographic profile (see Appendix E) was obtained from each of the 12 Extension agents participating in the training and from each of the nine Extension agents attending the consumer conference who agreed to complete the cognitive instrument. The profile was divided into eight categories: (a) age, (b) sex, (c) education, (d) handicapped family member, (e) handicapped close friend, (f) physical handicap self, (g) work experience with the handicapped, and (h) previous training in working with the handicapped. The first three categories, age, sex, and education, were not pertinent to the evaluation.
Inspection of the data from this profile on the agents participating in the training indicated that all of the Extension agents participating in the in-service training program had a special interest in the handicapped. Each agent had a handicapped family member or close friend, a handicap herself, work experience with the handicapped, or previous training in working with the handicapped (see Table 1).

Inspection of the data on the agents who took the knowledge tests but did not participate in the training revealed that none of this group of nine agents had family members or friends who were handicapped, nor was any of the nine handicapped herself, nor had any of this group had previous substantial experience with the handicapped.

Analysis of Data from Cognitive Posttest

For this analysis, the Extension agents who participated in the training represented the treatment group and the Extension agents who attended the Community Consumer Education Awareness Conference but did not attend the training represented the comparison group. Preliminary scoring of the cognitive posttest was accomplished by determining the number of correct answers for each agent on the five questions for each workshop. The average score then was determined for each workshop.

Each agent participating in the training completed the knowledge test only for the workshops attended. Of the
Table 1

Summary of Analysis of Data from Demographic Profiles

<table>
<thead>
<tr>
<th>Category</th>
<th>Agents in training</th>
<th>Agents not in training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 25</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>26-35</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>36-45</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>46-55</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>56-65</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Male</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College degree</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Master's degree</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Handicapped family member</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Handicapped close friend</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Physical handicap self</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Work experience with</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>handicapped</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous training in</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>working with the physically</td>
<td></td>
<td></td>
</tr>
<tr>
<td>handicapped</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
12 agents in the training program, only seven attended all of the training sessions.

Even though attendance at all sessions was required, particularly because of the interdisciplinary nature of the training program, five of the 12 trainees missed one or more of the individual training sessions. One reason that some of the agents did not attend all of the sessions was that they attended other workshops in the Community Consumer Education Awareness Conference instead. One agent left before the in-service training was over because of having arranged transportation with someone attending the consumer conference; the in-service training lasted one half day longer than the consumer conference.

All nine agents constituting the comparison group completed the five questions on each of the six workshops at one testing. These nine agents represented those agents attending the consumer conference who consented to take the knowledge test, though a total of 14 Extension agents attended the Consumer Conference.

**Estimate of Reliability of Test Scores**

The Kuder-Richardson Formula 20 was used to estimate the reliability of test scores from the administration of the single form of the knowledge test. This method was used to determine reliability of test scores from the tests on the interdisciplinary approach and on the five subject matter
areas. The reliability coefficient for each of the six tests that comprised the instrument is shown in Table 2.

The reliability coefficient was low for five of the tests, ranging from a .14 to .38. The reliability coefficient of the sixth test was zero. This low reliability could be accounted for in part by the small number of questions on each test. Another factor contributing to this low reliability could have been the homogeneity of the group tested since they all were Extension agents; all had a bachelor's degree or a master's degree; all were female.

Another important explanation for this low reliability is that each subject matter test was constructed by the Extension specialist responsible for that particular subject matter. The test on the interdisciplinary approach was constructed by the specialist responsible for the workshop on independence in feeding, who also was director of the Family Resource Development for the Handicapped project. Not all specialists possessed the same skills in test construction nor were they all in agreement with the use of a cognitive instrument as one of the evaluation devices.

Comparison of Test Scores

A summary of the average scores on the test for each workshop appears in Table 3. The average score for those agents participating in the training was higher on all six tests than the average score for those agents not participating in the training.
Table 2
Reliability Coefficients for Tests Comprising the Cognitive Instrumenta

<table>
<thead>
<tr>
<th>Test</th>
<th>Reliability Coefficienta</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Interdisciplinary approach</td>
<td>.31</td>
</tr>
<tr>
<td>II. Family Adjustments</td>
<td>.14</td>
</tr>
<tr>
<td>III. Independence in Feeding</td>
<td>.27</td>
</tr>
<tr>
<td>IV. Clothing: Asset or Liability?</td>
<td>.38</td>
</tr>
<tr>
<td>V. Barrier-Free Living</td>
<td>.00</td>
</tr>
<tr>
<td>VI. Management for Independent Living</td>
<td>.33</td>
</tr>
</tbody>
</table>

aReliability coefficients were determined using Kuder-Richardson Formula 20. Coefficients were determined using scores from the group of agents participating in the training and from the comparison group.
Table 3
Summary of Average Scores on Cognitive Posttest

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Average scores of agents participating in training</th>
<th>n</th>
<th>Average scores of agents not participating in training</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Interdisciplinary approach</td>
<td>3.4</td>
<td>9</td>
<td>2.9</td>
<td>9</td>
</tr>
<tr>
<td>II. Family Adjustments</td>
<td>3.3</td>
<td>11</td>
<td>3.0</td>
<td>9</td>
</tr>
<tr>
<td>III. Independence in Feeding</td>
<td>3.4</td>
<td>12</td>
<td>2.4</td>
<td>9</td>
</tr>
<tr>
<td>IV. Clothing: Asset or Liability?</td>
<td>3.6</td>
<td>9</td>
<td>2.8</td>
<td>9</td>
</tr>
<tr>
<td>V. Barrier-Free Living</td>
<td>2.9</td>
<td>10</td>
<td>2.2</td>
<td>9</td>
</tr>
<tr>
<td>VI. Management for Independent Living</td>
<td>4.5</td>
<td>11</td>
<td>3.4</td>
<td>9</td>
</tr>
</tbody>
</table>

aScores are based on number of correct answers on the five questions for each workshop.

bAgents participating in training took tests only for workshops attended so that n is not necessarily the same for all workshops.
The highest average score for both the training group and the comparison group was on Test VI: Management for Independent Living. The lowest average score for the training group and for the comparison group was on Test V: Barrier-Free Living. The number taking each test varies for the training group since all agents participating in the training did not attend all workshops, and they were tested only on the workshops attended. A graphic illustration of average scores on the cognitive posttests is shown in Figure 8.

Analysis of Data from Evaluation Instrument Administered at Exit from Temporary System

The first evaluation instrument (see Appendix D) was administered, at the conclusion of the training, to the agents participating in the training. The purpose of this evaluation instrument was to provide an immediate measure of the effectiveness of the in-service training.

The instrument was divided into two parts. Part I consisted of five opinion-positive statements. Forced-choice responses to these statements included: (a) agree, (b) tend to agree, (c) tend to disagree, and (d) disagree. Part II of the instrument consisted of four questions, with open-ended responses.
Figure 8. Graphic illustration of average scores on cognitive posttest by workshop.
Analysis Using Forced-Choice Responses to Statements Concerning In-Service

Analysis of Part I of this instrument was accomplished by hand tabulation of the frequency of responses to the five statements, for each of the six workshops (see Tables 4-9). The total number of responses to the statements for each workshop varies since all of the agents participating in the training did not attend all of the workshops. There was a total number of 11 evaluations since one of the 12 agents participating in the training was not present for this evaluation.

Examination of the responses to Part I of this instrument indicated that participants uniformly marked the agree or tend to agree alternative for all statements for all workshops, except for statements 2, 3, and 4 in Workshop I on The Handicapped--An Interdisciplinary Approach to Meeting the Needs, and statement 3 in Workshop III on The Handicapped--Independence in Feeding, in which the tend to disagree alternative was marked. No responses were made using the disagree alternative for any of the six workshops.

The high frequency of positive responses to all of the statements was anticipated since participation in the training was voluntary. In addition, all of the members of the interdisciplinary team that conducted the training had much previous experience in conducting in-service training programs. The team consisted of five Extension specialists.
Table 4
Frequency of Responses to Evaluation Statements on Workshop I: The Handicapped--An Interdisciplinary Approach to Meeting the Needs

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Tend to Agree</th>
<th>Tend to Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The objectives of the workshop were clear.</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. The material that was presented was valuable to you.</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3. The material will be useful to you in your work.</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>4. The instructional module itself was clear.</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5. The overall quality of the instruction was adequate.</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(n = 8\) Extension agents for this workshop.
Table 5

Frequency of Responses to Evaluation Statements on Workshop II:
The Handicapped--Family Adjustments

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Tend to Agree</th>
<th>Tend to Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The objectives of the workshop were clear.</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. The material that was presented was valuable to you.</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. The material will be useful to you in your work.</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. The instructional module itself was clear.</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. The overall quality of the instruction was adequate.</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(^{a}n = 10\) Extension agents for this workshop.
Table 6

Frequency of Responses to Evaluation Statements on Workshop III: The Handicapped--Independence in Feeding

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Tend to Agree</th>
<th>Tend to Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The objectives of the workshop were clear.</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. The material that was presented was valuable to you.</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. The material will be useful to you in your work.</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4. The instructional module itself was clear.</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. The overall quality of the instruction was adequate</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(^a\) n = 10 Extension agents for this workshop.
Table 7

Frequency of Responses to Evaluation Statements on Workshop IV:
The Handicapped--Clothing--Asset or Liability?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Response&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td>1. The objectives of the workshop were clear.</td>
<td>10</td>
</tr>
<tr>
<td>2. The material that was presented was valuable to you.</td>
<td>10</td>
</tr>
<tr>
<td>3. The material will be useful to you in your work.</td>
<td>10</td>
</tr>
<tr>
<td>4. The instructional module itself was clear.</td>
<td>9</td>
</tr>
<tr>
<td>5. The overall quality of the instruction was adequate.</td>
<td>8</td>
</tr>
</tbody>
</table>

<sup>a</sup> <sub>n = 10</sub> Extension agents for this workshop.
Table 8
Frequency of Responses to Evaluation Statements on Workshop V: The Handicapped--Barrier-Free Living

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Tend to Agree</th>
<th>Tend to Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The objectives of the workshop were clear.</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. The material that was presented was valuable to you.</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. The material will be useful to you in your work.</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. The instructional module itself was clear.</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. The overall quality of the instruction was adequate.</td>
<td>6</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\[ n = 11 \] Extension agents for this workshop.
Table 9

Frequency of Responses to Evaluation Statements on Workshop VI: The Handicapped--Management for Independent Living

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Tend to Agree</th>
<th>Tend to Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The objectives of the workshop were clear.</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. The material that was presented was valuable to you.</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. The material will be useful to you in your work.</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. The instructional module itself was clear.</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. The overall quality of the instruction was adequate.</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(^a\text{n} = 11\) Extension agents for this workshop.
The lower frequency of positive responses to statements 2, 3, and 4 for Workshop I on the interdisciplinary approach could be explained by the lack of familiarity with the terminology and by the complexity of the material presented. The agents were familiar with the basic terminology of the other five workshops.

A summary of the distribution of responses to the evaluation statements by percent agreeing with the statements appears in Table 10. The average percent of responses agreeing with the statements ranged from 57.5 percent for Workshop I on The Handicapped--An Interdisciplinary Approach to Meeting the Needs, to 94 percent for Workshop IV on The Handicapped--Clothing--Asset or Liability? As stated previously, there was a lack of familiarity with the terminology on interdisciplinarity, and the material itself was complex in nature.

Workshop V on The Handicapped--Barrier-Free Living had an average percent of 70.88 percent of the responses in agreement with the statements. Workshop V contained much complex material on legislation and building codes. The average percent of responses agreeing with the statements for the other three workshops was: Workshop II on The Handicapped--Family Adjustments--80 percent; Workshop III on The Handicapped--Independence in Feeding--84 percent; Workshop VI on The Handicapped--Management for Independent Living--92.72 percent.
Table 10

Summary of Distribution of Responses to Evaluation Statements
by Percent Agreeing with Statements

<table>
<thead>
<tr>
<th>Statement</th>
<th>Percent Responses in Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Workshop</td>
</tr>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>1. The objectives of the workshop were clear.</td>
<td>75</td>
</tr>
<tr>
<td>2. The material that was presented was valuable to you.</td>
<td>50</td>
</tr>
<tr>
<td>3. The material will be useful to you in your work.</td>
<td>37.5</td>
</tr>
<tr>
<td>4. The instructional module itself was clear.</td>
<td>75</td>
</tr>
<tr>
<td>5. The overall quality of the instruction was adequate.</td>
<td>50</td>
</tr>
<tr>
<td>Average percent of responses in agreement with statements</td>
<td>57.5</td>
</tr>
</tbody>
</table>


Analysis of Part II of this evaluation instrument also was accomplished by hand tabulation. All responses to each question first were listed; then the frequency of each response was tabulated for each question. Frequencies could represent more than one response by the same participant, where applicable. Distributions of responses to each of the four questions are shown in Tables 11-14.

Anticipated Use of In-Service Material in Community

The most frequent response to anticipated use of the material from the in-service in the community was as a resource person for agencies, civic organizations, Extension units, etc., with twelve responses (40 percent of the total of 30 responses). There were four responses to using material in working with handicapped individuals and four responses to using material in working with senior citizens. Four responses indicated use of material in public relations and/or mass media. There were three responses to use of material in working with small groups of handicapped individuals. There was a cumulative frequency of 27 for these six responses with a cumulative percent of 90 percent of the total responses.

Inclusion of Additional Topics in the In-Service

The most frequent response to inclusion of additional topics in the in-service training was that no additional topics
Table 11

Distribution of Responses to Anticipated Use of In-Service Material in Community

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource person for agencies, civic organizations, local government officials, professionals, etc.</td>
<td>8</td>
<td>26.67</td>
<td>8</td>
<td>26.67</td>
</tr>
<tr>
<td>Resource person for Extension unit</td>
<td>4</td>
<td>13.33</td>
<td>12</td>
<td>40.00</td>
</tr>
<tr>
<td>Work with handicapped individuals</td>
<td>4</td>
<td>13.33</td>
<td>16</td>
<td>53.33</td>
</tr>
<tr>
<td>Work with senior citizens</td>
<td>4</td>
<td>13.33</td>
<td>20</td>
<td>66.67</td>
</tr>
<tr>
<td>Public relations; mass media</td>
<td>4</td>
<td>13.33</td>
<td>24</td>
<td>80.00</td>
</tr>
<tr>
<td>Work with small groups of handicapped</td>
<td>3</td>
<td>10.00</td>
<td>27</td>
<td>90.00</td>
</tr>
<tr>
<td>Workshops for county residents and professionals</td>
<td>1</td>
<td>3.33</td>
<td>28</td>
<td>93.33</td>
</tr>
<tr>
<td>Recruit volunteers to work with handicapped</td>
<td>1</td>
<td>3.33</td>
<td>29</td>
<td>96.67</td>
</tr>
<tr>
<td>Newsletter</td>
<td>1</td>
<td>3.33</td>
<td>30</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Note: N = 11 agents.

aFrequency may represent more than one response by the same agent.
Table 12
Distribution of Responses to Inclusion of Additional Topics in In-Service

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional topics suggested</td>
<td>7</td>
<td>63.64</td>
<td>7</td>
<td>63.64</td>
</tr>
<tr>
<td>Ways and means of making community aware of needs of handicapped and approaches to helping the handicapped</td>
<td>1</td>
<td>9.09</td>
<td>8</td>
<td>72.73</td>
</tr>
<tr>
<td>More application of instructional materials</td>
<td>1</td>
<td>9.09</td>
<td>9</td>
<td>81.82</td>
</tr>
<tr>
<td>More on parent education for parents of handicapped children</td>
<td>1</td>
<td>9.09</td>
<td>10</td>
<td>90.91</td>
</tr>
<tr>
<td>Inclusion of veteran confined to wheelchair who designs barrier-free homes for handicapped (mentioned in workshop on housing)</td>
<td>1</td>
<td>9.09</td>
<td>11</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: N = 11 agents.
Table 13
Distribution of Responses to Topics That Could Have Been Omitted or Given Less Emphasis

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None should have been omitted or given less emphasis</td>
<td>11</td>
<td>100.00</td>
<td>11</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Note: N = 11 agents.
Table 14

Distribution of Responses to Request for General Comments on In-Service

<table>
<thead>
<tr>
<th>Comment</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superlative descriptors, such as: excellent in-service, superb job,</td>
<td>7</td>
<td>33.33</td>
<td>7</td>
<td>33.33</td>
</tr>
<tr>
<td>most helpful</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference should not be scheduled during snow season</td>
<td>6</td>
<td>28.57</td>
<td>13</td>
<td>61.90</td>
</tr>
<tr>
<td>Excellent resource people (consultants in field of rehabilitation)</td>
<td>4</td>
<td>19.05</td>
<td>17</td>
<td>80.95</td>
</tr>
<tr>
<td>More breaks would have helped keep participants alert and comfortable</td>
<td>2</td>
<td>9.53</td>
<td>19</td>
<td>90.48</td>
</tr>
<tr>
<td>Open conference to many more lay people</td>
<td>1</td>
<td>4.76</td>
<td>20</td>
<td>95.24</td>
</tr>
<tr>
<td>Housing, food, and meeting place excellent</td>
<td>1</td>
<td>4.76</td>
<td>21</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Note: N = 11 agents.

*Frequency may represent more than one response by the same agent.*
could be suggested, with over 60 percent of the total responses in this category. Four suggestions were made for additional topics, however: (a) ways of making the community aware of needs of the handicapped, (b) more demonstrations of ways to use instructional materials for the handicapped, (c) more training in parent education for parents of handicapped children, and (d) inclusion in the training, as a consultant, of a handicapped veteran who designs barrier-free homes for the handicapped (who was mentioned in the workshop on Barrier-Free Living).

**Topics That Could Have Been Omitted Or Given Less Emphasis**

None of the participants felt that any of the topics should have been omitted or given less emphasis.

**Comments on the In-Service Training by Participants**

The most frequent comment on the in-service training was in the form of a superlative descriptor. One third of the total frequency of 21 responses included such descriptors as excellent, superb job, very good in-service, etc. There were six responses to the suggestion that the training not be held during the snow season (28.57 percent of the total responses). Four participants commented on the excellent resource people (consultants in the field of rehabilitation). The above three categories comprised over 80 percent of the total number of responses.
Summary of Open-Ended Responses to Questions Concerning In-Service

A summary of major responses to questions in Part II of the evaluation instrument appears in Table 15. The highest percent (40 percent) of total responses to use of material from the in-service in the community was use of material in conjunction with role of agent as a resource person in the community on the handicapped. The highest percent (63.64 percent) of total responses to inclusion of additional topics in the in-service was that no additional topics were needed. One hundred percent of the responses to topics that could have been omitted or given less emphasis indicated that none of the topics should have been omitted or given less emphasis. Of all comments made about the in-service training, 52.38 percent contained a superlative descriptor describing the in-service and the resource people who participated (consultants in the field of rehabilitation).

Analysis of Data from Evaluation Instrument Administered after Reentry into Permanent System

The follow-up evaluation instrument (see Appendix D) was in the form of a summative questionnaire, which was mailed to each of the 12 participants three weeks after conclusion of the in-service training. The purpose of this questionnaire was to provide a reflective view of the effectiveness of the in-service training. The instrument consisted of seven questions, the basis of which were five questions suggested by Alford (1974).
Table 15
Summary of Major Responses to Open-Ended Questions by Percent of Total Responses to Each Item

<table>
<thead>
<tr>
<th>Question</th>
<th>Major Response</th>
<th>Percent of Total Responses to Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How do you think you might use this material in your community?</td>
<td>In role of resource person in community.</td>
<td>40.00</td>
</tr>
<tr>
<td>2. Do you think additional topics should have been included? If so, please specify.</td>
<td>No additional topics were needed.</td>
<td>63.64</td>
</tr>
<tr>
<td>3. Were there topics you believe could have been omitted or given less emphasis? If so, please specify.</td>
<td>None of the topics should have been omitted or given less emphasis.</td>
<td>100.00</td>
</tr>
<tr>
<td>4. Other comments.</td>
<td>Superlative descriptors to describe in-service and resource people (consultants in field of rehabilitation).</td>
<td>52.38</td>
</tr>
</tbody>
</table>
Analysis of this follow-up evaluation instrument was accomplished by hand tabulation. All responses to each question were listed exactly as recorded; then these responses were categorized and the frequency of these responses tabulated for each question. Frequencies could represent more than one response by the same participant, where applicable. For the questions where responses could not be categorized due to the diversity of the responses, the entire response for each participant was presented as recorded (except where slight changes in wording were necessary for clarification).

Reasons for Choosing the In-Service on the Handicapped

Distribution of responses as to why participants chose this particular in-service (Extension agents in Virginia may select a total of 10 days of in-service training during the fiscal year) appears in Table 16. The most frequent responses among a total of 13 different categories of responses were: (a) to understand needs and problems of the handicapped in order to be able to work more effectively with them, and (b) involvement of participant in special education projects in community, or interest in becoming involved in such projects. These two responses comprised 36.36 percent of the total number of responses. Generally, however, the reasons for participation in this in-service were varied, as shown in Table 16.
Table 16
Distribution of Responses to Reasons for Choosing the In-Service on the Handicapped

<table>
<thead>
<tr>
<th>Category</th>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To understand needs and problems of handicapped in order to be able to work more effectively with them</td>
<td>4</td>
<td>18.18</td>
<td>4</td>
<td>18.18</td>
</tr>
<tr>
<td>2</td>
<td>Involvement in special education projects in community or interest in becoming involved in such projects</td>
<td>4</td>
<td>18.18</td>
<td>8</td>
<td>36.36</td>
</tr>
<tr>
<td>3</td>
<td>Program by Extension specialist on management techniques for helping the handicapped live more independently</td>
<td>2</td>
<td>9.09</td>
<td>10</td>
<td>45.45</td>
</tr>
<tr>
<td>4</td>
<td>To learn more about how Extension can assist the handicapped</td>
<td>2</td>
<td>9.09</td>
<td>12</td>
<td>54.54</td>
</tr>
<tr>
<td>5</td>
<td>Exposure to handicapped through work with Sheltered Workshops in the community</td>
<td>2</td>
<td>9.09</td>
<td>14</td>
<td>63.63</td>
</tr>
<tr>
<td>6</td>
<td>Interest in needs of handicapped youth and their families in order to gear a 4-H program accordingly</td>
<td>1</td>
<td>4.54</td>
<td>15</td>
<td>68.17</td>
</tr>
<tr>
<td>7</td>
<td>Interest in senior citizens and felt inservice would help in working with them</td>
<td>1</td>
<td>4.54</td>
<td>16</td>
<td>72.71</td>
</tr>
</tbody>
</table>
Table 16 (continued)

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>8  To learn more about involving the handicapped in on-going and special interest education programs</td>
<td>1</td>
<td>4.54</td>
<td>17</td>
<td>77.28</td>
</tr>
<tr>
<td>9  To be able to communicate better with handicapped</td>
<td>1</td>
<td>4.54</td>
<td>18</td>
<td>81.79</td>
</tr>
<tr>
<td>10 Personal interest in well-being of the handicapped</td>
<td>1</td>
<td>4.54</td>
<td>19</td>
<td>86.33</td>
</tr>
<tr>
<td>11 Exposure to handicapped through involvement in screening program for detection of high blood pressure</td>
<td>1</td>
<td>4.54</td>
<td>20</td>
<td>90.81</td>
</tr>
<tr>
<td>12 Special concern for those with handicaps resulting from arthritis</td>
<td>1</td>
<td>4.54</td>
<td>21</td>
<td>95.41</td>
</tr>
<tr>
<td>13 Chose this inservice because had already taken most other training topics</td>
<td>1</td>
<td>4.54</td>
<td>22</td>
<td>99.95&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note:  \( N = 12 \) participants

<sup>a</sup>Frequency may represent more than one response by the same participant.

<sup>b</sup>Percent does not total 100 due to rounding.
Responsiveness of In-Service to Individual Needs of Participants

Responses as to whether the in-service was responsive to the individual needs of the participants appear in Table 17. These responses could not be categorized from the data because of the diversity of the responses; therefore, responses appear in the table exactly as they were recorded by the individual participants (except where slight changes in wording were necessary for clarification).

Most of the responses indicated the in-service was responsive to each participant's individual needs. The participants felt that the training covered most of the problems of the handicapped (in the five subject matter areas included in the in-service); that the training broadened the participants' scope concerning needs of the handicapped; that participants learned many ways of dealing with problems of the handicapped; and that participants' general concept of the handicapped was improved through participation in the training.

One participant indicated that she needed information on working with emotionally and mentally handicapped more than information on working with the physically handicapped. It should be noted, however, that the emphasis in this in-service from the outset was on physical handicaps.

One participant suggested subsequent advanced training in working with the handicapped. Another participant indicated she would like to learn effective techniques to use
Table 17  
Summary of Responsiveness of In-Service to Participants' Individual Needs

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Training covered most of the problems of the handicapped. Pointed out situations and needs participant had not thought of before, such as inaccessibility of wheelchairs to public telephones.</td>
</tr>
<tr>
<td>2</td>
<td>Training broadened participant's scope concerning needs of handicapped since participant had had few contacts with physically handicapped.</td>
</tr>
<tr>
<td>3</td>
<td>Participant felt in-service very well planned and gained a great deal from it. Suggested subsequent advanced training in working with the handicapped.</td>
</tr>
<tr>
<td>4</td>
<td>As a result of the training, participant became more aware of who the handicapped are and what can be done through educational programs. Participant intends to make on-going Extension programs available to handicapped persons; involve communities in programs; and help handicapped clients learn aids to independent living.</td>
</tr>
<tr>
<td>5</td>
<td>Participant felt much of the training could be used in working with the handicapped.</td>
</tr>
<tr>
<td>6</td>
<td>After the training, participant had a better understanding of special problems of the handicapped. Felt better able to plan programs for the handicapped.</td>
</tr>
<tr>
<td>7</td>
<td>Participant had not worked closely with the handicapped for two years and felt the need of refresher information. Participant also learned additional information about the handicapped. Because of the type of demands in an urban county, participant felt more could be accomplished with the handicapped by working with professionals or volunteers who have direct contact with handicapped persons. Participant would like to learn effective techniques to use in forming advisory committees on the needs of the handicapped.</td>
</tr>
<tr>
<td>8</td>
<td>The training session covered many areas which were helpful.</td>
</tr>
</tbody>
</table>
Table 17 (continued)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Participant learned many ways of dealing with problems of the handicapped.</td>
</tr>
<tr>
<td>10</td>
<td>Participant needed information on working with emotionally and mentally handicapped more than with physically handicapped.</td>
</tr>
<tr>
<td>11</td>
<td>Through participation in the training, participant's general concept of the handicapped was improved. Participant found it gratifying to actually see the effectiveness of involvement of handicapped persons as consultants in the training program.</td>
</tr>
<tr>
<td>12</td>
<td>Participant found training gave a broad perspective, with some resource references geared specifically to youth or 4-H. As a result of the training, participant had ordered and received a book on 4-H projects for handicapped youth, which was pertinent to participant's needs.</td>
</tr>
</tbody>
</table>

Note: Responses appear as recorded (except where slight changes in wording were necessary for clarification).
in forming advisory committees in the community on the needs of the handicapped.

A summary of the intensity of the responsiveness of the in-service to the participants' individual needs appears in Table 18. The data showed that the in-service was responsive or very responsive to the needs of 83.33 percent of the participants.

**Effectiveness of the Interdisciplinary Approach to Training Compared to the Disciplinary Approach**

A summary of responses to the effectiveness of the interdisciplinary approach to in-service training compared to the disciplinary approach appears in Table 19. The responses of all participants are shown exactly as recorded (except where slight changes in wording were necessary for clarification). Generally, the participants felt that the interdisciplinary approach was more effective than the disciplinary approach because the interdisciplinary approach emphasized the total needs of the handicapped and helped participants in the training become more aware of the interrelationship of all five subject matter areas in helping solve problems unique to persons with handicaps and their families.

The interdisciplinary approach was more effective because it gave variety to the in-service, which was conducive to learning, and because it gave a wide range or perspective on problems of the handicapped. The participants felt this approach provided an opportunity for them to become informed
Table 18

Distribution of Intensity of Responsiveness of In-Service to Individual Needs of Participants

<table>
<thead>
<tr>
<th>Intensity</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very responsive to participant's needs</td>
<td>2</td>
<td>16.67</td>
<td>2</td>
<td>16.67</td>
</tr>
<tr>
<td>Responsive to participant's needs</td>
<td>8</td>
<td>66.66</td>
<td>10</td>
<td>83.33</td>
</tr>
<tr>
<td>Partially responsive to participant's needs</td>
<td>2</td>
<td>16.67</td>
<td>12</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Note. N = 12 participants.
Table 19
Summary of Responses to the Effectiveness of the Interdisciplinary Approach to Training Compared to the Disciplinary Approach

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interdisciplinary approach definitely more effective. It brought to my attention the total needs of the handicapped, which are no different from anyone else.</td>
</tr>
<tr>
<td>2</td>
<td>The interdisciplinary approach was more effective because it was an approach that showed all areas can be supportive.</td>
</tr>
<tr>
<td>3</td>
<td>The interdisciplinary approach was most effective because it has helped me in working with a handicapped homemaker, who has to do work in all areas of the home.</td>
</tr>
<tr>
<td>4</td>
<td>The interdisciplinary approach was more effective because it helped participants in the training become more aware of the interrelationship of all subject matter areas. Persons with handicaps and members of their families use more than one subject matter area when solving problems.</td>
</tr>
<tr>
<td>5</td>
<td>The interdisciplinary approach was good. People live interdisciplinary lives and training should be presented this way.</td>
</tr>
<tr>
<td>6</td>
<td>I think the interdisciplinary approach was more effective because it gave a variety, which was more conducive to learning; also, it will be beneficial in being able to give assistance in the different areas.</td>
</tr>
<tr>
<td>7</td>
<td>With the amount of time allowed for in-service training, I think the interdisciplinary approach is the most effective way of approaching the subject. Again, I am not as baffled by subject matter as I am knowing how to draw on the resources of interested groups.</td>
</tr>
<tr>
<td>8</td>
<td>The interdisciplinary approach was more effective because I needed to receive information in all of these areas.</td>
</tr>
</tbody>
</table>
Table 19 (continued)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>I felt the interdisciplinary approach was more effective because you knew exactly what area was being concentrated on, and I was able to ask questions directly to the person dealing with a particular area.</td>
</tr>
<tr>
<td>10</td>
<td>The training sessions were very good.</td>
</tr>
<tr>
<td>11</td>
<td>The interdisciplinary approach was more effective than focusing on one subject matter area because it gave participants an opportunity to become more informed in a number of subject matter areas. Too, it gave participants an opportunity to be better prepared to select priorities for their Extension unit's approach to helping solve problems of the handicapped.</td>
</tr>
<tr>
<td>12</td>
<td>I liked the interdisciplinary approach because it provided a wider range or perspective on the handicapped situation. Many details I will probably never directly encounter in my job; however, it appears better to present the entire situation than simply one subject matter.</td>
</tr>
</tbody>
</table>

Note. Responses appear as recorded (except where slight changes in wording were necessary for clarification).
about the handicapped in a number of subject matter areas, thus better preparing them to establish priorities in their local Extension units to help solve problems of the handicapped.

Frequency of the responses to the effectiveness of the interdisciplinary approach to training compared to the disciplinary approach appears in Table 20. Eleven of the 12 participants (or 91.7 percent) felt the interdisciplinary approach was more effective than the disciplinary approach; the response of one participant was inconclusive.

**Single Most Effective Learning Experience in the In-Service**

Responses of the participants to the single most effective learning experience appear in Table 21, exactly as they were recorded by the participants (except where slight changes in wording were necessary for clarification). These comments were presented in their entirety to demonstrate reactions of the participants in the in-service training to participation of the rehabilitation consultants in the workshops. Presentations of these consultants and informal participation by them in the workshops supplemented the in-service training by the Extension specialists.

Responses to the single most effective learning experience were then placed into five categories. Distribution of these categorized responses appears in Table 22. The highest frequency (10 responses or 77 percent of the total
Table 20
Frequency of Responses to Effectiveness of Interdisciplinary Approach Compared to Disciplinary Approach

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interdisciplinary approach more effective than disciplinary approach</td>
<td>11</td>
<td>91.7</td>
<td>11</td>
<td>91.7</td>
</tr>
<tr>
<td>Inconclusive response</td>
<td>1</td>
<td>8.3</td>
<td>12</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: N = 12 participants.
Table 21

Summary of Responses to Single Most Effective Learning Experience in the In-Service

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There were two. The presence of Dr. Lois Schwab\textsuperscript{a} and Dr. Carol Ebberly\textsuperscript{b} for the entire conference. They contributed to all the sessions. Their comments and talks were the highlight of the conference. Dr. Schwab's national status added depth to the program.</td>
</tr>
<tr>
<td>2</td>
<td>Dr. Carol Ebberly and Dr. Bruce Ebberly.\textsuperscript{c}</td>
</tr>
<tr>
<td>3</td>
<td>The aids for the homemaker to make her more independent.</td>
</tr>
<tr>
<td>4</td>
<td>Presentations and informal contributions made by Dr. Carol Ebberly and Dr. Bruce Ebberly. They exemplified adjustments being made in achieving independent living.\textsuperscript{d}</td>
</tr>
<tr>
<td>5</td>
<td>The whole session was good. Perhaps the most effective was Dr. Carol Ebberly. She pointed out the adjustments of a handicapped person and the excellent attitude of a person with a handicap. All the consultants were outstanding and the Extension specialists, too.</td>
</tr>
<tr>
<td>6</td>
<td>Having a &quot;live&quot; example on the subject (Dr. Carol Ebberly) would make one take notice (even if not interested at first). I was interested in the beginning and it brought home the problems a large number of people are faced with. I feel more competent to tackle the subject.</td>
</tr>
<tr>
<td>7</td>
<td>The most effective learning experience was having Dr. Lois Schwab with us the entire time. I do not mean to take anything away from the entire teaching staff—they did a great job. It is so important, though, to remain aware of new ideas, approaches, and philosophies. We need exposure to more than Extension philosophies. Her enthusiasm and interest in the handicapped and her knowledge of national legislation was most helpful.</td>
</tr>
</tbody>
</table>
Table 21 (continued)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
</table>
| 8           | Learning to eat with a handicap—the food section—because we were involved in trying or experiencing "firsthand."
| 9           | The most effective learning experience for me was when we were put in the position of a handicapped person trying to eat. |
| 10          | The sessions with Dr. Lois Schwab. They were effective because she obviously was an authority in this field. |
| 11          | The single most effective learning experience in the in-service training was the opportunity to work with a physically disabled person. For me, it really improved my concept and was really a good learning experience. I feel that the resource person for the workshop helped us to better understand our responsibility to effectively involve persons with a handicap or disabling condition. |
| 12          | The one with the greatest impact was the interviews of the husband-wife team (Dr. Carol Ebberly and Dr. Bruce Ebberly). Both were enlightening and added much to the overall training. The resource notebook was also excellent. I also enjoyed the presentation on equipment or aids used by handicapped. |

Note. Responses appear as recorded (except where changes in wording were necessary for clarification).

aDr. Lois Schwab is Professor of Homemaker Rehabilitation in the Department of Human Development and the Family, University of Nebraska-Lincoln. She is a member of the President's Committee on Employment of the Handicapped.

bDr. Carol Ebberly is a psychologist in the Spinal Cord Injury Unit of McGuire Veterans Hospital, Richmond, Virginia. She is confined to a wheelchair because of a spinal cord injury.

cDr. Bruce Ebberly is a psychologist with the Alcohol and Drug Unit of McGuire Veterans Hospital. Prior to this assignment, he was with the Spinal Cord Injury Unit.

dDr. Carol Ebberly and Dr. Bruce Ebberly attended the training with their three-year-old daughter.
Table 22

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation and informal contributions by Dr. Lois Schwab</td>
<td>4</td>
<td>30.8</td>
<td>4</td>
<td>30.8</td>
</tr>
<tr>
<td>Presentation and informal contribution by Dr. Carol Ebberly</td>
<td>3</td>
<td>23.1</td>
<td>7</td>
<td>53.9</td>
</tr>
<tr>
<td>Presentations and informal contributions by the team of Dr. Carol Ebberly and Dr. Bruce Ebberly</td>
<td>3</td>
<td>23.1</td>
<td>10</td>
<td>77.0</td>
</tr>
<tr>
<td>Experience of problems of eating for a handicapped person, through simulation of physical handicaps in workshop on Independence in Feeding.</td>
<td>2</td>
<td>15.4</td>
<td>12</td>
<td>92.4</td>
</tr>
<tr>
<td>Aids for homemaker to make her more independent.</td>
<td>1</td>
<td>7.6</td>
<td>13</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note. N = 12 participants; one participant gave equal credit to two learning experiences.
responses) was to the presentations and informal contributions by the rehabilitation consultants.

Responses pertaining to the actual training sessions conducted by the Extension specialists indicated that the most effective learning experiences were: (a) encountering problems of handicapped persons with eating, through simulation of physical handicaps by participants while eating (this simulation was a learning strategy used in Workshop III on The Handicapped--Independence in Feeding); and (b) the various aids that were demonstrated in several of the workshops to help the homemaker become more independent.

**Single Least Effective Learning Experience in In-Service**

Results of responses to the single least effective learning experience appear in Table 23 exactly as recorded (except where slight changes in wording were necessary for clarification). Two of the participants suggested that the evaluations were the single least effective learning experience: one participant because she felt the information would not be shared with the participants (as apparently had been the case with other evaluations she had been involved in). All participants in this in-service, however, were sent summaries of all responses by the participants to both of the evaluation instruments. The other participant suggested it would have been effective to have a summation of the results of the cognitive posttest at the end of each of the six workshops,
Table 23
Summary of Responses to Single Least Effective Learning Experience in In-Service

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None was the least effective.</td>
</tr>
<tr>
<td>2</td>
<td>The evaluations, because they will be of no use to me if there is no follow-up with those involved in the training. Evaluations should be shared so everyone can get an overview of how others thought as compared to own thoughts.</td>
</tr>
<tr>
<td>3</td>
<td>It was all good and each experience was a part of the total training.</td>
</tr>
<tr>
<td>4</td>
<td>Response not applicable to question.</td>
</tr>
<tr>
<td>5</td>
<td>Response not applicable to actual training.</td>
</tr>
<tr>
<td>6</td>
<td>None was the least effective. All were good and can be used at one time or another, and with different subjects.</td>
</tr>
<tr>
<td>7</td>
<td>I would not eliminate any sections of the training we received. Some areas could be expanded. I guess all could be expanded, but of course there wouldn't be the time. I would like to see more on family relations, i.e., how to help a family adjust when the mother can no longer assume the usual ten million chores--how to teach her to teach her family when she must learn to cope both with her problems and with her family.</td>
</tr>
<tr>
<td>8</td>
<td>Response not applicable to actual training.</td>
</tr>
<tr>
<td>9</td>
<td>Participant did not respond to this question.</td>
</tr>
<tr>
<td>10</td>
<td>All sessions were good.</td>
</tr>
<tr>
<td>11</td>
<td>I find it difficult to single out a specific learning experience as least effective. Perhaps, the evaluation after each presentation would have been more effective if we had the summation given us during or immediately following the in-service training.</td>
</tr>
<tr>
<td>12</td>
<td>Most all was very good.</td>
</tr>
</tbody>
</table>

Note. Responses appear as recorded (except where slight changes in wording were necessary for clarification).
or at the end of the in-service training. These were valid suggestions.

Generally, however, the responses to this question were inconclusive. One participant suggested that some areas could be expanded, family relations in particular, as she would have liked to have learned more on how to help a family adjust when the mother can no longer assume homemaking chores because of physical limitations.

**Recommendations for Activities to be Included in the In-Service in the Future**

The summary of responses to including other activities in the in-service in the future are shown in Table 24 exactly as they were recorded by the participants (except where slight changes in wording were necessary for clarification). These responses were varied and could not be placed into categories.

Recommendations for additional activities included:
(a) a visit to the Woodrow Wilson Rehabilitation Center (Fishersville, Virginia), a rehabilitation center for physically handicapped youth; (b) ways handicapped homemakers could supplement their income at home; (c) opportunity to observe a barrier-free environment; (d) emphasis on less severe handicaps, since agents would be more likely to be called upon to deal with these; (e) child care for mothers, including ways of helping parents adjust to a handicapped child; (f) information on working with children of 4-H age (9-19 years) who are handicapped; (g) in-depth training on
Table 24

Summary of Responses to Recommendations of Activities to be Included in In-Service in Future

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perhaps a firsthand visit to the Woodrow Wilson Rehabilitation Center (Fishersville, Virginia) would have brought to our attention how handicapped persons function in society.</td>
</tr>
<tr>
<td>2</td>
<td>Participant did not respond to this question.</td>
</tr>
<tr>
<td>3</td>
<td>Maybe something on types of jobs homemakers could do at home to supplement their income, e.g., special training or continued education or a correspondence course.</td>
</tr>
<tr>
<td>4</td>
<td>Observing barrier-free environment or firsthand experience at a center using appliances, techniques, methods, etc. in rehabilitation.</td>
</tr>
<tr>
<td>5</td>
<td>Perhaps more emphasis could be placed on less severe handicaps because these are the ones we deal with the most often.</td>
</tr>
<tr>
<td>6</td>
<td>I believe it was very good as it was. I would prefer not to see any additions, as it might be tiring.</td>
</tr>
<tr>
<td>7</td>
<td>Child care for mothers. Helping parents adjust to a handicapped child. How to take advantage of what he can do rather than focusing on what he can't do. Remainder of response not within scope of this in-service.</td>
</tr>
<tr>
<td>8</td>
<td>Can't think of anything I would add.</td>
</tr>
<tr>
<td>9</td>
<td>I think more information on working with 4-H-age children (9-19) with a handicap should be included.</td>
</tr>
<tr>
<td>10</td>
<td>Response not within scope of this in-service.</td>
</tr>
<tr>
<td>11</td>
<td>I do not recommend an addition of any one special activity for future in-service training. I feel that in-depth training, with reference to new laws that affect implementation of programs by Extension personnel, be included in the training.</td>
</tr>
</tbody>
</table>
Table 24 (continued)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>4-H project suggestions or development of programs for use with school special education programs. Zero in on specific needs of youth 9-19 years who have different types of handicaps. Would like to see other handicaps besides strictly physical ones addressed in in-service training. Use as much variety in teaching and visuals as possible.</td>
</tr>
</tbody>
</table>

**Note.** Responses appear as recorded (except where slight changes in wording were necessary for clarification).
new laws that affect implementation of programs by Extension personnel; and (h) the stressing of other handicaps besides strictly physical ones.

**Overall Evaluation of In-Service**

Responses to the overall evaluation of the in-service training appear in Table 25 exactly as recorded (except where slight changes in wording were necessary for clarification). All of the comments were positive, ranging from good to excellent.

Generally, the participants felt the in-service pointed out needs of the handicapped in the community. The presenters were well-prepared and presented information effectively. The variety of speakers made the in-service interesting. The consultants on rehabilitation made excellent contributions to the effectiveness of the overall program. The participants would like to recommend the in-service to other Extension agents.

Distribution of responses categorized according to intensity appear in Table 26. One hundred percent of the responses were favorable. Twenty-five percent of the participants thought the in-service was excellent; 50 percent thought it very good, helpful, interesting, and/or informative; and 25 percent thought the in-service was good.
### Table 25

**Summary of Responses to Overall Evaluation of In-Service Training**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>It was very helpful and pointed out needs in the community.</td>
</tr>
<tr>
<td>2</td>
<td>Good!</td>
</tr>
<tr>
<td>3</td>
<td>It was excellent.</td>
</tr>
<tr>
<td>4</td>
<td>Excellent in-service training experience, well planned, using a wide variety of topics and teaching methods. Presenters were well-prepared and presented information effectively. Dr. Lois Schwab made excellent contributions throughout the training session.</td>
</tr>
<tr>
<td>5</td>
<td>The in-service was good and well-suited to our needs.</td>
</tr>
<tr>
<td>6</td>
<td>It was very good. The in-service was one of the most interesting ones I've attended. The variety of speakers made it more interesting, and the methods kept the group alert. By changing speakers, the program did not become boring. This was a very nice method of getting the most out of every minute.</td>
</tr>
<tr>
<td>7</td>
<td>Very good! This is a very needed kind of training for all home economists. I will certainly recommend it to other agents.</td>
</tr>
<tr>
<td>8</td>
<td>Excellent. I especially appreciated the notebook.(^a) I am still going through it and have shared it with a number of people.</td>
</tr>
<tr>
<td>9</td>
<td>I felt that the in-service was very informative and helpful. I feel that all agents should be involved in programs like it.</td>
</tr>
<tr>
<td>10</td>
<td>Very good.</td>
</tr>
<tr>
<td>11</td>
<td>My overall evaluation of the in-service was positive. I felt it was a good meeting, and made us more aware of the potentials, expertise, and feelings of some of the physically handicapped.</td>
</tr>
<tr>
<td>Participant</td>
<td>Response</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td>12</td>
<td>Very good!</td>
</tr>
</tbody>
</table>

Note. Responses appear as recorded (except where slight changes in wording were necessary for clarification).

*aThe notebook referred to in this response was the instructional module prepared by the interdisciplinary training team for each participant to use in her own Extension unit.*
Table 26

Distribution of Intensity of Responses to Overall Evaluation of the In-Service

<table>
<thead>
<tr>
<th>Intensity</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>3</td>
<td>25</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Very good, helpful, interesting, and/or informative</td>
<td>6</td>
<td>50</td>
<td>9</td>
<td>75</td>
</tr>
<tr>
<td>Good</td>
<td>3</td>
<td>25</td>
<td>12</td>
<td>100</td>
</tr>
</tbody>
</table>

Note. N = 12
Summary of Analysis of Evaluation Instrument following Reentry into Permanent System

To summarize the analysis of the follow-up instrument, responses to the first question indicated the main reason the participants chose this in-service was to learn more about the needs and problems of the physically handicapped in order to be able to work more effectively with the handicapped in the community, whether through special education projects, sheltered workshops, 4-H programs, or programs for senior citizens.

Alford (1974) says that the second question of the follow-up instrument, on responsiveness of the in-service to individual needs, provides specific insights into individual participant perceptions. Generally, the participants felt the training was responsive to their needs, that it broadened their scope on the problems and needs of the handicapped and that they became more aware of who the handicapped are and what can be done for them.

The purpose of the third question, on whether the interdisciplinary approach to training was more effective than the disciplinary approach, was to provide information in making decisions to use the interdisciplinary format in future in-service training programs. Responses to this question were overwhelmingly in favor of the interdisciplinary approach to training.
Alford says that the fourth and fifth questions provide information immediately useful in modifying the training for future presentation. Responses to the fourth question indicated the marked contribution made by the consultants in rehabilitation who participated in the program. Responses to the fifth question indicated that ways to elicit a more favorable attitude toward evaluation are needed, as well as ways to improve dissemination of information obtained from evaluation instruments to those persons who actually participate in the evaluation.

Alford suggests that the sixth question also provides specific insights into individual participant perceptions. Activities recommended in the future by the agents in their responses to this question included: (a) visits to a rehabilitation center, and (b) the opportunity to observe barrier-free environments. Provision of more information on working with handicapped children also was recommended, particularly through 4-H programs.

Alford says that the final question provides a reference scale for judging the intensity of favorable or unfavorable statements in the other answers. The intensity of the responses to the overall evaluation of the in-service were highly favorable. Based on Alford's interpretation, the intensity of favorable statements in the other questions also would be considered high. There were no unfavorable statements in any of the evaluation responses.
Analysis of Data on Work Days Expended on Handicapped by Agents, Prior to Training and Following Training

Data on work days expended on the handicapped was retrieved from progress reports that were prepared by the 12 Extension agents who participated in the training (retrieved by computer through the Virginia Extension Management Information System). Data on work days expended on the handicapped for the six months' period prior to participation in the training was used as baseline data for comparing the work days expended on the handicapped for the six months' period that followed the in-service training.

The data were analyzed to test the theoretical proposition that:

The total number of work days expended on the handicapped by the group of agents participating in the training will be greater for the six months' period following the training than for the six months' period prior to the training.

A comparison of work days on projects for the handicapped prior to the training and following the training is shown in Table 27. Areas of work are shown exactly as they appeared in the computerized retrieval. Work days expended are shown for each of the areas of work in the Extension Family Resources program. For the six months prior to the training, eight agents (of the total of 12 participating in the training) reported involvement with projects involving the handicapped; and seven agents (of the total of 12 participating in the training) reported involvement with projects involving the handicapped during the six months following the training.
Table 27
Comparison of Work Days Expended on Projects for the Handicapped by Participants Prior to Training and Following Training

<table>
<thead>
<tr>
<th>Area of Work</th>
<th>July 1, 1977 through February 1, 1978</th>
<th>February 2, 1978 through June 30, 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Work Days Expended</td>
<td>Cumulative Work Days</td>
</tr>
<tr>
<td>Arts &amp; Crafts</td>
<td>1.250</td>
<td>1.250</td>
</tr>
<tr>
<td>Child Development</td>
<td>2.500</td>
<td>3.750</td>
</tr>
<tr>
<td>Clothing &amp; Textiles</td>
<td>.625</td>
<td>4.375</td>
</tr>
<tr>
<td>Community Education</td>
<td>.500</td>
<td>4.875</td>
</tr>
<tr>
<td>Community Research &amp; Development</td>
<td>3.250</td>
<td>8.125</td>
</tr>
<tr>
<td>Consumer Education</td>
<td>1.125</td>
<td>9.250</td>
</tr>
<tr>
<td>Food Buying, Preparation &amp; Preservation</td>
<td>.500</td>
<td>11.000</td>
</tr>
<tr>
<td>Engineering Technology</td>
<td>4.125</td>
<td>15.125</td>
</tr>
<tr>
<td>Human Nutrition</td>
<td>.000</td>
<td>15.125</td>
</tr>
<tr>
<td>Program Development</td>
<td>.000</td>
<td>15.125</td>
</tr>
<tr>
<td>Recreation &amp; Tourism</td>
<td>.500</td>
<td>15.625</td>
</tr>
</tbody>
</table>

Note. Of the 12 Extension agents who participated in the training, eight agents reported work days expended in projects for the handicapped during the six months' period prior to the training, and seven agents during the six months' period following the training.

a Basic data were obtained from the Virginia Extension Management Information Service.
Examination of the table shows that days expended in the child development area increased from zero prior to the training to 4.000 following the training, representing 16.5 percent of total work days expended on the handicapped. Work days expended in the clothing and textiles area increased from zero to 1.750 following the training, representing 7.2 percent of total work days on the handicapped. Community education increased from zero to 1.500 work days following the training, and family life education for the handicapped increased from zero to 1.000 work days expended following the training. Health for the handicapped increased from 1.125 work days to 3.875 work days following the training. This represented 16.0 percent of the total work days on the handicapped, by the group of agents. Housing increased from zero to 2.000 work days expended following the training, and personal growth and development from zero to 1.125. There was a slight decrease in work days expended on home management following the training, from 1.750 to 1.250, and in days expended on human nutrition for the handicapped, from 4.125 work days to 3.500 work days.

Data on the comparison group of Extension agents, consisting of the nine agents who attended the Community Consumer Education Awareness Conference but did not attend the interdisciplinary in-service training program, also were retrieved from the Virginia Extension Management Information System. This data appears in Table 28. This group
Table 28

Work Days Expended on Projects for the Handicapped by Comparison Group for Period Six Months Prior to Training Program and Six Months Following Training Program

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Education</td>
<td>.000</td>
<td>.875</td>
</tr>
<tr>
<td>Food Buying, Preparation &amp; Preservation</td>
<td>.375</td>
<td>.000</td>
</tr>
<tr>
<td>Home Management</td>
<td>.625</td>
<td>.000</td>
</tr>
<tr>
<td>Human Nutrition</td>
<td>.000</td>
<td>.500</td>
</tr>
<tr>
<td>Total</td>
<td>1.000</td>
<td>1.375</td>
</tr>
</tbody>
</table>

*aOf the 16 areas of work, these 4 were the only areas in which the comparison group (9 Extension agents) expended work days on projects for the handicapped.*
expended work days on the handicapped only in four areas of work. Consumer Education increased from .000 to .875 for the period following the interdisciplinary training program and Human Nutrition increased from .000 to .500 for the same period. Food Buying, Preparation & Preservation decreased from .375 to .000, and Home Management from .625 to .000.

A comparison of work days expended in the subject matter areas of the interdisciplinary in-service training for the two six months' periods is shown in Table 29, both for the participants and for the comparison group. There was an increase in work days expended by participants in Family Adjustments from .000 to 5.000; in Clothing from .000 to 1.750; in Barrier-Free Living from .000 to 2.000. There was a decrease in work days expended by participants in Independence in Feeding from 7.375 to 5.250; and a decrease in Management for Independent Living from 1.750 to 1.250.

Only two subject matter areas were represented by the comparison group. Independence in Feeding increased from .375 to .500; Management for Independent Living decreased from .625 to .000.

Summary of Analysis of Work Days Expended on Handicapped by Agents

A summary of analysis of the data on work days on the handicapped appears in Table 30. The summary shows that there was an increase in the total work days expended by the group of agents in the training, following the training from
Table 29
Comparison of Work Days Expended in Subject Matter Areas of the Interdisciplinary In-Service Training Prior to Training and Following Training

<table>
<thead>
<tr>
<th>Subject Matter</th>
<th>Work Days Expended</th>
<th>Work Days Expended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>July 1, 1977</td>
<td>February 2, 1978</td>
</tr>
<tr>
<td></td>
<td>through</td>
<td>through</td>
</tr>
<tr>
<td></td>
<td>February 1, 1978</td>
<td>June 30, 1979</td>
</tr>
<tr>
<td></td>
<td>Training Group</td>
<td>Training Group</td>
</tr>
<tr>
<td></td>
<td>Comparison Group</td>
<td>Comparison Group</td>
</tr>
<tr>
<td>Family Adjustments&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.000</td>
<td>5.000</td>
</tr>
<tr>
<td>Independence in Feeding&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7.375</td>
<td>5.250</td>
</tr>
<tr>
<td>Clothing: Asset or Liability&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.000</td>
<td>1.750</td>
</tr>
<tr>
<td>Barrier-Free Living&lt;sup&gt;d&lt;/sup&gt;</td>
<td>.000</td>
<td>2.000</td>
</tr>
<tr>
<td>Management for Independent Living&lt;sup&gt;e&lt;/sup&gt;</td>
<td>1.750</td>
<td>1.250</td>
</tr>
<tr>
<td>Total</td>
<td>9.125</td>
<td>15.250</td>
</tr>
<tr>
<td></td>
<td>1.000</td>
<td>.500</td>
</tr>
</tbody>
</table>

Note. Training group contained 12 agents; Comparison group contained 9 agents.

<sup>a</sup>Data obtained by combining Child Development and Family Life Education areas of work.
<sup>b</sup>Data obtained by combining Food Buying, Preparation & Preservation with the Human Nutrition area of work.
<sup>c</sup>Data obtained from Clothing & Textiles area of work.
<sup>d</sup>Data obtained from Housing area of work.
<sup>e</sup>Data obtained from Home Management area of work.
Table 30
Summary of Analysis of Work Days Expended on Handicapped by Agents in Training

<table>
<thead>
<tr>
<th>Item</th>
<th>July 1, 1977 through February 1, 1978</th>
<th>February 2, 1978 through June 30, 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total work days on handicapped expended by agents in training</td>
<td>15.625</td>
<td>24.250</td>
</tr>
<tr>
<td>Total work days on handicapped expended by all Extension agents</td>
<td>155.125</td>
<td>131.375</td>
</tr>
<tr>
<td>Percent of work days on handicapped expended by agents in training, of all work days on handicapped expended by all Extension agents</td>
<td>10.070</td>
<td>18.459</td>
</tr>
<tr>
<td>Work days on handicapped expended by agents in training in 5 subject matter areas of training program</td>
<td>9.125</td>
<td>15.250</td>
</tr>
<tr>
<td>Percent of work days on handicapped expended by agents in training in 5 subject matter areas of all work days on handicapped expended by all Extension agents</td>
<td>5.882</td>
<td>11.608</td>
</tr>
<tr>
<td>Average number of work days on handicapped for each agent in training, of total work days on handicapped expended by agents in training</td>
<td>1.953</td>
<td>3.357</td>
</tr>
<tr>
<td>Number of days on handicapped expended by agents in training, that were planned work days</td>
<td>2.5</td>
<td>.000</td>
</tr>
</tbody>
</table>
Table 30 (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>July 1, 1977 through February 1, 1978</th>
<th>February 2, 1978 through June 30, 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of planned work days on handicapped by agents in training, of total work days on handicapped expended by agents in training</td>
<td>16.0</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note 1. 8 hours = 1 work day; 260 work days = 1 man year.
Note 2. For the six months' period prior to the training there were eight of the 12 Extension agents in the training reporting work days on the handicapped and seven for the six months' period following the training.

a Basic data was obtained from the Virginia Extension Management Information Service.
b Sixty percent of each Extension agent's work days (156 work days per year) are planned by that agent, over a year in advance.
15.625 to 24.250. There was an increase in percent of work days on the handicapped by agents in the training, of all work days on the handicapped expended by all Extension agents, from 10.070 percent to 18.459 percent. There also was an increase in work days expended on the five subject matter areas covered by the training, from 9.125 for the period prior to the training to 15.250 following the training. This represented an increase in percent work days in subject matter areas by agents in training, of all work days on the handicapped by all agents, from 5.882 prior to training to 11.608 following training. The average number of work days on the handicapped for each agent in training, of the total work days on the handicapped expended by these agents, increased from 1.953 prior to the training to 3.357 following the training.

This summary indicates a marked increase in work days on the handicapped expended during the six months' period following the training. This increase provides empirical evidence to support the theoretical proposition that the total number of work days on the handicapped expended by the agents for the six months' period following the training would be greater than for the six months' period prior to the training. It is assumed that this increase was due to the training program itself.

Sixty percent of each agent's total work days are planned far in advance. It should be noted that the six months' period prior to the training contained planned work days on
the handicapped, whereas the six months' period following the training contained no planned work days on the handicapped. This indicates that all work days on the handicapped following the training had to compete with all other program areas to fit into the 40 percent of the work days that were unplanned.

It also should be noted that a plan of work is designed by each agent usually in the month of January for the fiscal year beginning the following July so that if there were planned work days on the handicapped for the six months' period following the training, these days would have been planned a year prior to the training program itself.

Conclusions and Recommendations Pertaining to Family Resource Development for the Handicapped

This study was involved with the development of a model to be used in the evaluation of interdisciplinary in-service training programs. The model was used to evaluate an innovative in-service training program, Family Resource Development for the Handicapped, to determine the effectiveness of this interdisciplinary training program. The program was a residential continuing education program designed to train Extension agents to help meet the needs of the physically handicapped in the community.
Conclusions

As a result of the evaluation of this interdisciplinary in-service training program, it was concluded that the interdisciplinary approach to training is a viable approach where training is devised for the purpose of seeking solutions to complex problems, in this instance the problem of mainstreaming the handicapped into the community.

In this particular program, the interdisciplinary approach in which all subject matter areas focused on the problem of mainstreaming the handicapped into the community was appropriate because of the complexity of the problem. The interdisciplinary approach to training is not a universal approach in Extension, however, as in-service training in Extension would still usually require a disciplinary approach.

There were advantages and disadvantages to having the interdisciplinary in-service training program as part of a large conference that attracted many prominent speakers. An advantage was that the training sessions on the handicapped were open to all persons attending the conference; consequently, 60 persons from the conference attended one or more of the training sessions on the handicapped; therefore, there was fuller utilization of the interdisciplinary team. An advantage to the conference as a whole was that there was fuller utilization of the rehabilitation consultants to the training program on the handicapped since these consultants also participated in the Consumer Conference. A disadvantage
to the training program was that the conference provided alternative sessions of special interest to individual agents, thereby competing with the training program for attendance by these agents; consequently, all Extension agents constituting the training group did not attend all of the training sessions on the handicapped. Since these sessions using the interdisciplinary approach focused together on solutions to the complex problem of mainstreaming the handicapped into the community, it was of prime importance that all trainees attend all sessions of the interdisciplinary training program.

While the four rehabilitation consultants technically were not part of the interdisciplinary team, their presentations were important contributions to the effectiveness of the training program. These presentations were considered in the overall evaluation of the training program by the participants.

While data from the evaluation instruments were used in determining the effectiveness of the interdisciplinary in-service training program itself, data retrieved through the Virginia Management Information System provided a means of demonstrating change in work performance by the trainees once they returned to the permanent system. Appropriate ways can be devised in other interdisciplinary in-service training programs to quantify evidence of change in behavior in the permanent system.
Because of the questionable reliability of the knowledge tests, with a reliability coefficient ranging from zero to .38 for the six individual tests, data from these tests could not be used in determining the effectiveness of the training program. All other data, however, demonstrated evidence of the effectiveness of the training, both during the life of the temporary system and during the six months' period following return to the permanent system. It should be noted that while the six months' period gave initial evidence of the effective outcome of the training program, it is not a sufficient period of time for determining conclusively whether these Extension agents will be able to handle family resource problems unique to the physically handicapped in the community in the future.

One of the most important facets of judging the worth of training is whether those being trained use the training once they return to their permanent system. Though all kinds of data can be collected exemplifying accomplishments in working with the handicapped in an interdisciplinary way, once the trainees are back in their permanent system, the true test of effectiveness of the training is the long-range effect of that training.

In the human ecosystem (Bubolz, Eicher, & Sontag, 1979), the human constructed environment (HCE) is the environment altered or created by human beings (including modifications
made by humans of the natural environment's physical and biological components and other social and cultural constructions). When the handicapped individual is substituted in the human ecological model and Extension home economists are placed in the human constructed environment (HCE), the ultimate effectiveness of interdisciplinary training in the long range is whether these Extension agents have an impact on the handicapped person's human behavioral environment (HBE) and, consequently, on the handicapped person's near environment (housing, home furnishings, household equipment, clothing and textiles, food, and family) so that he/she no longer is "an observer in life but, rather, takes his place in the mainstream."

Recommendations

As a result of the application of the evaluation model to Family Resource Development for the Handicapped, several recommendations evolved pertaining to this particular training program:

1. Guidelines should be established for retrieval of information through Virginia Extension Management Information System (VEMIS) for the purpose of collecting data to be used to determine the value of interdisciplinary in-service training in the permanent system, from both a short-range and a long-range point of view.
2. Studies should be done to determine the optimum number of Extension agents that should be trained when the interdisciplinary approach is used. Unlike workshops utilizing the expertise of one Extension specialist, the interdisciplinary approach requires a team of specialists. For this reason, it is particularly important to determine the optimum number to be trained, for efficient use of the interdisciplinary team.

3. Longitudinal studies should be undertaken that would incorporate assessment of the impact of this training program, and the cumulative impact of similar training programs, on solutions to the problem of mainstreaming the handicapped into the community.

4. If it is feasible for a residential interdisciplinary in-service training program for Extension agents, Family Resources, to be implemented as a component of a conference, ways should be devised to assure the attendance of participants in the interdisciplinary training at all sessions of the training program.

5. The cognitive and affective measuring instruments should be pretested if possible and at least reviewed by experts in educational and psychological measurements.
CHAPTER V
DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Since results of the application of the model to a specific interdisciplinary in-service training program have been summarized in Chapter IV, these will not be repeated in this chapter. Conclusions and recommendations pertaining to application of the model to this specific program also appear in Chapter IV.

The purpose of this chapter is: (a) to discuss the utility of the evaluation model; (b) to present conclusions regarding the use of the evaluation model; and (c) to make recommendations regarding use of the model for evaluating interdisciplinary in-service training programs in the future.

Discussion of Utility of the Model

This researcher developed a model to be used for evaluation of interdisciplinary in-service training programs, based on the view of the in-service training program as a temporary educative system. This model is shown in Figure 2 (page 54).

The model can be used for evaluating the effectiveness of any interdisciplinary in-service training program. It is designed to simplify the evaluation procedure. The model entails a systems approach to evaluation of interdisciplinary in-service training programs based on Miles' (1964a)
theory of educative systems. The systems approach involving the use of data from the temporary system (in which the training takes place) and from the permanent system (from which the trainee enters the training program and to which he/she returns once the program has been terminated) is a vital component of the model.

The model is divided into three phases: the pretraining assessment in the permanent system, the posttraining assessment in the temporary system, and the posttraining assessment in the permanent system. The evaluator should enter the model during the pretraining assessment phase with identification of the problem.

If the evaluator is involved in all three phases of the assessment the greatest benefit from the model will be realized. In addition, the evaluation process will produce thorough and cohesive results to be utilized in determining the effectiveness of the training.

Evaluation of interdisciplinary training must involve data from all disciplines that comprise the training. The model emphasizes this aspect of the evaluation process.

The final step in the model is the utilization of results in the decision-making process. Results from the application of this model can easily be used by those in the decision-making role for making decisions that affect future interdisciplinary in-service training programs.
Conclusions Regarding Use of the Model

The general conclusion is that the evaluation model developed and tested empirically by this researcher is an appropriate model for evaluating any interdisciplinary in-service training program. It simplifies the evaluation process, particularly where the evaluator is involved in the pretraining assessment phase.

The use of a two-part posttraining assessment demonstrates the overall effectiveness of the training program. This two-part posttraining assessment strengthens the evaluation process immeasurably.

As a result of having tested the model on an interdisciplinary in-service program, it was concluded that: (a) application of the model should pose no difficulty; (b) it can readily be used by an internal evaluator; and (c) the expense of the evaluation process is, therefore, minimal.

Recommendations Pertaining to the Model

1. It is recommended that the evaluator enter the model with identification of the problem.

2. To insure maximum benefit from the model, the steps in all three phases of the evaluation should be followed implicitly.

3. The importance of instructing the interdisciplinary team in the purpose and process of evaluation should be emphasized.
4. Subjects should be randomly selected and randomly assigned to the training and the comparison groups. If randomization is not possible, the comparison group should be matched with the training group.

5. The importance of instructing the participants in the training as to the purpose and process of evaluation should be emphasized.

6. All participants should be apprised of the importance of attending an interdisciplinary in-service training program in its entirety, since each session contributes toward solution of the problem on which the training focuses.

7. All evaluation instruments should include segments on each discipline in an interdisciplinary in-service training program. In addition, such instruments should include segments on the interdisciplinary training program as a whole.

8. If a cognitive instrument is utilized in the evaluation process, the importance of cohesiveness in an interdisciplinary instrument should be emphasized. Ample time should be allowed for developing the instrument and pretesting it for clarity, validity, and reliability.

9. The final test of the overall effectiveness of interdisciplinary in-service training should be determined by whether the participants use the training once they return to the permanent system, that is to their communities, **not** by the satisfaction of the participants with the process of the training during the life of the temporary system.
REFERENCES


Mullis, R. M. A comparative evaluation of two approaches to the physiological well-being component of the core curriculum in home economics (Doctoral dissertation, University of Tennessee, 1976). (University Microfilms No. 77-10,790)


Smith, M. A. H. Interdisciplinary training for nutrition graduate students. In M. A. H. Smith (Ed.), Feeding the handicapped child. Memphis: Child Development Center, University of Tennessee, 1972.


Yep, J. O. Preparation of extension home economists as clothing consultants to physically disabled individuals (Doctoral dissertation, Iowa State University, 1976). University Microfilms No. 76-28, 267)
Appendix A

Agenda for Training Program
Family Resource Development for the Handicapped: A Community Consumer Education Awareness Workshop

Donaldson Brown Center for Continuing Education
Virginia Polytechnic Institute and State University
Blacksburg, Virginia

January 30-February 2, 1978

Agenda

January 30--Monday
Workshop A
3:00-4:45 p.m.

The Handicapped--Attitudes for Independence
Dr. Carol Ebberly and Dr. Bruce Ebberly
Psychologists, Spinal Cord Injury Unit
and Drug & Alcohol Unit, Respectively
McGuire Veterans Hospital, Richmond, Virginia

January 30--Tuesday
Workshop B
8:00-9:45 a.m.

The Handicapped--Who Are They and What Can We Do?
Dr. Lois O. Schwab
Professor of Human Development and the Family
The University of Nebraska-Lincoln

The Handicapped--The Physical Limitations

Workshop C
10:05-11:50 a.m.

The Handicapped--An Interdisciplinary Approach to Meeting the Needs
Dr. Rebecca M. Mullis,
Extension Specialist, Foods and Nutrition
Virginia Tech Extension, Blacksburg, Virginia

The Handicapped--Family Adjustments
Extension Specialist, Family Life
Virginia Tech Extension, Blacksburg, Virginia
February 1--Wednesday
Workshop D
8:30-10:00 a.m.
The Handicapped--Independence in Feeding
Dr. Rebecca M. Mullis
Extension Specialist, Foods and Nutrition
Virginia Tech Extension, Blacksburg, Virginia

2:00-5:00 p.m.
The Handicapped--Clothing: Asset or Liability?
Dr. Beatrice Kalka
Extension Specialist, Clothing and Textiles
Virginia Tech Extension, Blacksburg, Virginia

February 2--Thursday
Workshop E
The Handicapped--Barrier-Free Living
Extension Specialist, Housing and Structures
Virginia State Extension, Petersburg, Virginia

The Handicapped--Management for Independent Living
Extension Specialist, Family Management
Virginia State Extension, Petersburg, Virginia

The Handicapped--Involving the Community in Rehabilitation
Graduate Researcher
Extension Agent, Madison County, Virginia
Appendix B

Statement of Objectives for Training Program
Workshop on Family Resource Development for the Handicapped: Statement of Objectives

**Ultimate Objective:** To improve the family living skills of the physically handicapped and their families.

**Program Objectives:** To utilize a Family Resource team composed of Family Resource and educational specialists to develop a multidisciplinary educational approach designed to assist the handicapped and their families as they function in their homes and communities.

**Subobjective 1:** To develop one interdisciplinary educational module in Family Resource subject-matter areas: foods and nutrition, family resource use, clothing and textiles, housing and family development.

**Activities:**
1. To develop an interdisciplinary case study of a handicapped individual living in the community.
2. To develop subject-matter information in the following areas: foods and nutrition, family resource use, clothing and textiles, housing, and family development.

**Subobjective 2:** To communicate this module to professionals, paraprofessionals, and volunteers in existing community agencies who work directly with handicapped families, through the existing consumer education network.

**Activities:**
1. To develop a teaching plan for the interdisciplinary module.
2. To prepare educational materials to be used at the workshop.
3. To utilize consultants to assist program participants in understanding the handicapped and their needs.

**Subobjective 3:** Evaluate the effectiveness of this approach in assisting handicapped persons to function more effectively in their homes or communities.

**Activities:**
1. To develop pretest-posttest instruments to measure workshop participants' knowledge and attitudes about the handicapped as related to family resource needs.
2. To develop a workshop satisfaction survey to measure participant satisfaction with the contest and conduct of the workshop.

3. To develop a follow-up survey designed to assess participant reaction to the workshop after a lapse of three months, and to measure any change in participant activity in community efforts related to the handicapped.
Appendix C
Extension Units and Planning Districts Represented, with Map
### Extension Units and Planning Districts Represented by Population for the Study

<table>
<thead>
<tr>
<th>Virginia Tech Extension Units Represented by Participants in In-Service Training</th>
<th>Virginia Tech Extension Division Planning Districts Represented by Participants in In-Service Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amelia</td>
<td>14</td>
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<td>Amherst</td>
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<td>Campbell</td>
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<td>Louisa</td>
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<td>Richmond</td>
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<td>Scott</td>
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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
EXTENSION DIVISION DISTRICTS
Effective July 1, 1971

NUMERALS INDICATE STATE PLANNING DISTRICTS
Appendix D

Evaluation Devices
I. The Handicapped—An Interdisciplinary Approach to Meeting the Needs

For each item, select the best answer and indicate your choice by circling the letter to the left of the appropriate item.

1. An example of using the interdisciplinary approach to problems of the handicapped is teaching the handicapped to

   a. care for a child
   b. clean the kitchen floor
   c. dress themselves
   d. prepare simple meals

2. The interdisciplinary approach can be useful in dealing with the physically handicapped because

   a. all aspects of life are affected by the physical handicap
   b. the interdisciplinary approach allows one to examine the problems of the handicapped one at a time
   c. the needs of the physically handicapped are relatively limited
   d. working with the physically handicapped requires modeling

3. The most effective way for home economists to work with the handicapped is to consider

   a. individual well-being
   b. skill-level learning
   c. their physical surroundings
   d. total family well-being

4. Home economists can use the interdisciplinary approach to working with the physically handicapped by

   a. facilitating information flow between the family and the community
   b. guiding the daily lives of the physically handicapped
   c. teaching homemaking skills to the physically handicapped
   d. teaching the handicapped meal preparation and feeding skills
5. The interdisciplinary approach in Family Resource Development involves

a. each subject matter area working independently on the same problem
b. intervention of a subject matter specialist into a problem situation
c. subject matter areas functioning as a unit to deal with the problem
d. subject matter specialists consulting each other if a problem arises in that field
II. The Handicapped--Family Adjustments

For each item, select the best answer and indicate your choice by circling the letter to the left of the appropriate item.

1. The presence of a handicapped child in the family often elicits all the following reactions except
   a. anger
   b. neutrality
   c. overprotection
   d. rejection

2. When a handicapped child resides in the home, the parent-child relationship between a normal sibling and the mother most often
   a. deteriorates
   b. dissolves
   c. improves
   d. stays the same

3. A factor that should be taken into account when working with parents of handicapped children is the parents' feeling of
   a. anxiety
   b. guilt
   c. loneliness
   d. sorrow

4. Members of the family may consider the birth of a handicapped child a
   a. blessing
   b. family crisis
   c. fault of the mother
   d. punishment

5. Overprotection by the family may foster feelings in the handicapped of
   a. assertiveness
   b. confusion
   c. embarrassment
   d. inadequacy
III. The Handicapped--Independence in Feeding

For each item, select the best answer and indicate your choice by circling the letter to the left of the appropriate item.

1. A difficult problem for the homemaker who has crippling arthritis is
   a. breaking eggs
   b. opening containers
   c. stirring ingredients
   d. washing dishes

2. In addition to the Recommended Daily Dietary Allowances of the National Research Council, persons with spinal cord injuries require greater amounts of the following nutrients than normal people:
   a. carbohydrates and vitamin D
   b. essential fatty acids and vitamin E
   c. iron and vitamin A
   d. protein and vitamin C

3. A handicapping condition which creates a need for additional calories is
   a. cerebral palsy
   b. crippling arthritis
   c. muscular dystrophy
   d. paraplegia

4. Most nutritional problems in the handicapped individual result from the
   a. handicapping condition itself
   b. inability to prepare food
   c. lack of someone to feed the handicapped person
   d. the degree of self-help skills possessed by the handicapped

5. The most important aspect of dealing with feeding problems of the handicapped is
   a. concentrating on other aspects of habilitation rather than the feeding problem
   b. determining necessary feeding aids and devices
   c. determining the feeding problem on an individual basis
   d. feeding the handicapped person before the rest of the family
IV. The Handicapped--Clothing--Asset or Liability?

For each item, select the best answer and indicate your choice by circling the letter to the left of the appropriate item.

1. The clothing needs of the physically handicapped are
   a. different from those of non-handicapped persons
   b. diverse and thus do not facilitate standardized solutions
   c. peculiar to the disability only
   d. so complex that solutions cannot be devised

2. The goal of selecting attractive and well-fitting clothing for the physically handicapped person is
   a. adapting to the handicap
   b. de-emphasizing the disability
   c. increasing independence
   d. using clothing as a crutch

3. Most clothing is hampering to a certain degree from the standpoint of physical or muscular activity because it
   a. can burden the wearer with emotional stress and general feelings of frustration and deprivation
   b. increases the workload of the body up to as much as 10 percent
   c. may make dressing and undressing a painful operation
   d. restricts the person's ability to function independently

4. The lack of fashionable, functional and comfortable clothing may lead the physically handicapped to
   a. accept not looking like others
   b. be less readily accepted by others
   c. minimize the physical handicap
   d. withdraw from participation in daily activities

5. Dressing and undressing may be less of a burden for the physically handicapped who have limited small motor skills if the following type closure is used:
   a. button
   b. gripper
   c. Velcro
   d. zipper
V. The Handicapped--Barrier-Free Living

For each item, select the best answer and indicate your choice by circling the letter to the left of the appropriate item.

1. The International Symbol of Accessibility for the Handicapped should be used and prominently displayed to identify accessible facilities such as
   a. eating facilities
   b. emergency exits and fire extinguishers
   c. transportation facilities
   d. water fountains and public telephones

2. A goal of housing for handicapped persons is to
   a. make the handicapped adapt to a home with no modifications
   b. make the home completely accessible
   c. provide a barrier-free environment
   d. provide a housing project designed for handicapped persons only

3. In order to meet the needs of the handicapped, modifications to existing buildings usually
   a. cost less than making the same adjustments in a new construction
   b. involve meeting stricter building codes than in normal housing
   c. involve the addition of a wing with special facilities for the handicapped
   d. require removing existing structure before the installation of the new facility

4. Minor changes or additions to an existing home, with little cost, can usually make the
   a. entire home accessible to the handicapped
   b. home at least usable in certain areas by the handicapped
   c. kitchen convenient, practical and safe for handicapped use
   d. two-story homes accessible to the handicapped on both levels
5. Which of the following priorities would carry the greatest importance when choosing a building for accessibility to the handicapped?

a. access to drinking facilities
b. access to office facilities
c. access to parking and entrances
d. access to restroom facilities
VI. The Handicapped--Management for Independent Living

For each item, select the best answer and indicate your choice by circling the letter to the left of the appropriate item.

1. One of the most popular and needed kitchen self-help devices among hemiplegics and others limited to the use of one hand is the
   a. cone-type graters
   b. peeling and cutting board
   c. pot handle holder
   d. wooden bowl holder

2. Physically limited homemakers need the most help in
   a. remodeling their home to meet their limitations
   b. resigning themselves to the limitations of their disabilities
   c. selecting kitchen tools to prepare meals themselves
   d. utilizing their capabilities to the fullest

3. Letting the dishes air-dry instead of hand-drying them is an example of
   a. a self-help device
   b. breaking old habits by organizing work
   c. gravity and momentum at work
   d. saving time through avoiding needless tasks

4. The best way for a physically limited individual to perform a task is to
   a. do all jobs sitting down
   b. hire someone else to do tasks
   c. use less energy in the performance of tasks
   d. use many labor-saving devices

5. A household task that can be therapeutic to an arthritic is
   a. lifting saucepan from range to sink
   b. opening a jar
   c. washing dishes in warm water
   d. wringing a mop
I. Rate each workshop on a 1 to 4 scale, with 1 meaning agree, 2 meaning tend to agree, 3 meaning tend to disagree, and 4 meaning disagree.

<table>
<thead>
<tr>
<th></th>
<th>Interdisciplinary Approach</th>
<th>Family Adjustments</th>
<th>Independence in Feeding</th>
<th>Clothing Needs</th>
<th>Housing Needs</th>
<th>Management</th>
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</thead>
<tbody>
<tr>
<td>1. The objectives of the workshop were clear.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>2. The material that was presented was valuable to you.</td>
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<td>1 2 3 4</td>
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<tr>
<td>3. The material will be useful to you in your work.</td>
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<td>1 2 3 4</td>
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<td>4. The instructional module itself was clear.</td>
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<td>5. The overall quality of the instruction was adequate.</td>
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</table>
II. Please answer all of the following questions: (The back of this sheet may be used if necessary.)

1. How do you think you might use this material in your community?

2. Do you think additional topics should have been included? If so, please specify.

3. Were there topics you believe could have been omitted or given less emphasis? If so, please specify.

4. Other comments:
Follow-up Evaluation of In-Service Training on Working with the Physically Handicapped

Please answer all questions as completely and objectively as possible. Use the back of the sheet if necessary.

1. Why did you choose this particular in-service?

2. Was the in-service responsive to your individual needs? Explain.

3. Did you feel the interdisciplinary approach, i.e., all subject matter areas focusing on one problem, was more effective or less effective than if the focus had been limited to one subject matter area? Why?

4. What was the single most effective learning experience in the in-service? Why?

5. What was the single least effective learning experience in the in-service? Why?

6. What one activity not included in the in-service would you recommend to be added in the future? Why?

7. What is your overall evaluation of this in-service? Explain.
I. The Handicapped--An Interdisciplinary Approach to Meeting the Needs
1. a
2. a
3. d
4. a
5. c

II. The Handicapped--Family Adjustments
1. b
2. a
3. b
4. b
5. d

III. The Handicapped--Independence in Feeding
1. b
2. d
3. a
4. d
5. c

IV. The Handicapped--Clothing: Asset or Liability?
1. b
2. c
3. b
4. d
5. c

V. The Handicapped--Barrier-Free Living
1. d
2. c
3. d
4. b
5. c

VI. The Handicapped--Management for Independent Living
1. b
2. d
3. d
4. c
5. c
Appendix E

Demographic Profile
DEMOGRAPHIC PROFILE

Please check the appropriate response by placing a check mark (✔) in the blank space to the left of each question.

SEX: 男 ✔ 女 □

AGE GROUP:
- Under 25  ✔
- 26-35
- 36-45
- 46-55
- 56-65
- Over 65

PLACE OF RESIDENCE: (specify)

LEVEL OF EDUCATION:
- College graduate  ✔
- Advanced degree □

WHY ARE YOU ATTENDING THIS WORKSHOP?

PREVIOUS EXPERIENCE WITH THE HANDICAPPED:
- I have a handicapped person in my family.  ✔
- I have a close friend who is handicapped.  □
- I have a physical handicap myself.  □
- I have worked with a handicapped person in a professional capacity (if so, please describe)  □
- I have had no previous substantial experience with handicapped persons.  □
- I have had previous training in working with the handicapped (if so, please describe)  □
The vita has been removed from the scanned document
A MODEL FOR EVALUATING INTERDISCIPLINARY
IN-SERVICE TRAINING PROGRAMS

by

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(ABSTRACT)

The purpose of this study was to evaluate an interdisciplinary in-service training program, Family Resource Development for the Handicapped, and through experience gained in the process, to develop a general model for evaluation of interdisciplinary in-service training programs. In addition, the efficacy of this model was tested for its intended use.

The model entailed a systems approach to evaluation of interdisciplinary in-service training programs in which the training program was viewed as a temporary educative system and the community as a permanent system. The model was divided into three phases: pretraining assessment in the permanent system, posttraining assessment in the temporary system, and posttraining assessment in the permanent system. An important step in the posttraining assessment was determining effectiveness of the interdisciplinary in-service training program: (a) during the life of the temporary system, and (b) in the permanent system, based on previously established criteria for effectiveness for each system. The overall
effectiveness of the interdisciplinary in-service training program then was determined. The final step in the evaluation model entailed the utilization of results of the evaluation in the decision-making process for future interdisciplinary in-service training programs.

The model was applied to evaluation of the interdisciplinary in-service training program, Family Resource Development for the Handicapped. The purpose of this training program was to utilize an interdisciplinary team of Extension specialists to train Extension agents from the Virginia Cooperative Extension Service to work with the physically handicapped in the community. Data used to determine the effectiveness of this interdisciplinary in-service training program, based on prestated criteria, indicated that the interdisciplinary training was effective in training Extension agents to work with the physically handicapped in the community.

Following application of the model to evaluation of Family Resource Development for the Handicapped, it was concluded that the model was an appropriate model for evaluating interdisciplinary in-service training programs in general. Use of the model simplified the evaluation process. To insure maximum benefit from the model, the steps in all three phases of the evaluation process should be followed implicitly.