



Nutrition education of low income families in the expanded food and nutrition education program: a comparison of methods
by Kathleen Mae Phillips Schlepp

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Abstract:

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Homemakers were interviewed in two counties and family progress under one method of guidance was compared to progress under the other method. To determine the difference in methods employed, Aides, Extension Agents, Supervisors and personnel of other agencies were interviewed.

Cascade County had the supervision of a professional Home Economist compared to a para-professional Supervisor in Yellowstone County. Yellowstone County homemakers appeared to be more needy than Cascade County homemakers. The Aides from the community in which they work in Yellowstone County do individual guidance compared to more group guidance in Cascade County. Yellowstone County minority group Aides served a large number of racial minority families. There was a definite trend of more knowledge, skills and motivation generated in Yellowstone County than in Cascade County. Cascade County Aides and homemakers appeared to be more independent in the program than those in Yellowstone County.

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NUTRITION EDUCATION OF LOW INCOME FAMILIES IN THE EXPANDED
FOOD AND NUTRITION EDUCATION PROGRAM.

A COMPARISON OF METHODS.

by

KATHLEEN PHILLIPS SCHLEPP

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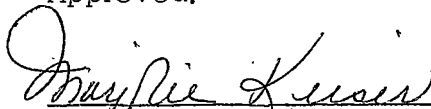
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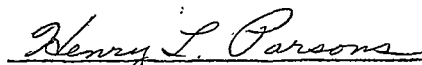
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Approved:


Head, Major Department


Chairman, Examining Committee


Graduate Dean

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ABSTRACT

Hunger and malnutrition of low income families due to lack of resources prompted the USDA Extension Service to set up an Expanded Foods and Nutrition Education Program. This program has been deemed effective but evaluation is needed. The purpose of this study was to investigate two different methods used in EFNEP and to compare them for effectiveness.

Homemakers were interviewed in two counties and family progress under one method of guidance was compared to progress under the other method. To determine the difference in methods employed, Aides, Extension Agents, Supervisors and personnel of other agencies were interviewed.

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CHAPTER I

INTRODUCTION

To be able to provide an adequate diet with the best food at the lowest cost, the homemaker must have usable knowledge in nutrition and skill in food preparation and food economics. Nutrition is essential to good health which affects family unity, employment, education and social stability. Low income families face unique problems in obtaining adequate diets. Food often becomes the flexible item in the budget when limited finances cause priority to be given to shelter and clothing. Low levels of motivation resulting from poor nutrition prohibit betterment of self and family. A panel on Nutrition Teaching and Nutrition Education at the White House Conference on Food, Nutrition and Health in 1969 emphasized that misinformation and deception cheat the homemakers of enormous sums of money, as well as good health for their families (1).

Prompted by the states of hunger and malnutrition of low income families in the United States, the Federal Government authorized the United States Department of Agriculture (USDA) to establish a nutrition education program. In 1968, the groundwork was laid for the Expanded Foods and Nutrition Education Program (EFNEP) through the Cooperative Extension Service. Realizing that family culture and food patterns are well established, EFNEP determined its goals; not to change food habits that are part of a family's heritage but to work within the established

patterns giving guidance for increasing the nutritive quality of the diet. In the process of attaining this goal, other goals were to be achieved. Emphasis is placed on health and human values in hopes of increasing motivation. By implementing knowledge and skills, better selection of food can be achieved in accordance with financial resources.

Local Cooperative Extension Agents direct the EFNEP activities in their respective counties. Low income homemakers are selected and trained in EFNEP to give help and guidance in nutrition education to low income families. The trained homemakers, Program Assistants, work with small groups of homemakers and with individual families in their homes. The employment of these para-professional Program Assistants in nutrition education appears to be a positive contribution to the betterment of low income people. Para-professionals can provide the manpower where academic training is not essential (2). Recently Horace Sipple, Executive Secretary of the Nutrition Foundation, stated that one of the most effective national educational systems reaching a large part of our population with information on a variety of food related subjects is the Extension Service's EFNEP (3).

One primary function of any education program is to serve as effectively as possible the goals established in the program's development. Interacting with a successful program's development are the disciplines of research and evaluation. Program evaluation can be the operational tool that may or may not support current program decision

making and it may open the door to needed insights. When different methods of presentation are employed in a program, a comparison of the methods for effectiveness may suggest a number of beneficial changes. Recommendations for a change of direction resulting from this comparison may improve the present program. Ideally, to evaluate the progress of the program, a comparison of the actual status at the time of the evaluation with the status that would have existed had there been no program should be done. However, limitations in time and funds seldom permit an evaluation before a program's inception.

Evaluation of a program such as EFNEP may present several problems. The willingness and ability of people in the program to give reliable information depends upon: 1) the individual, and 2) their communications with the investigator. The design of a national program evaluation system has often lagged behind initiation of operation, so in the meantime, each unit sets up its own record-keeping system (4). A diverse array of evaluations cannot allow for accurate comparison of separate program centers. The current unit and family monthly reports in the EFNEP program do not reveal the acceptance, use or misuse of the program. With continuation of the program seemingly guaranteed, the need to develop an effective evaluation of different methods (used for achieving goals) is especially necessary.

The purpose of this study was to compare the effectiveness of two EFNEP programs in Montana by examining knowledge, skills and motivation generated through different methods of presentation.

It is hypothesized that there is no significant difference between the achievement of goals in samples drawn from these two EFNEP centers concerning knowledge, skills and motivation, although methods of presentation may differ.

CHAPTER II

REVIEW OF LITERATURE

Nutritional Status of Low Income People in the United States

"Hunger and poverty exist on a disgraceful scale in the United States" (5). Many Americans suffer from hunger and malnutrition for several reasons: 1) unequal income distribution; 2) lack of education; 3) differences in habit, taste, and/or 4) differences in personal preferences (6).

Nutritional surveys have been conducted to establish the nutritional status of Americans. Two of the most recent surveys are the 1965 Food Consumption Survey and the 1970 National Nutritional Survey. The USDA Research Service conducted the 1965 Food Consumption Survey to obtain a measure of food used in U.S. households to evaluate the quality of diets (7). The diets were evaluated by comparing the nutrient content of them with the levels of seven nutrients required to meet the 1964 Recommended Dietary Allowances (RDA's) (7). The Food and Nutrition Board of the National Research Council set up the RDA's as allowances of each nutrient that people should have for maintenance of good nutrition according to age and sex.

The 1970 National Nutrition Survey was administered by the Department of Health, Education and Welfare to determine the condition of the country nutritionally (8). The sample was drawn from low income

areas because it was felt that the prevalence of malnutrition would be greatest in the population with the lowest income. The lower quartile of the low income areas was the sample for the survey. The National Nutrition Survey was done in ten states: New York, Michigan, South Carolina, Kentucky, California, West Virginia, Washington, Massachusetts, Texas and Louisiana, and in New York City. Dietary recalls were taken of each subject and clinical tests were conducted.

In the 1965 USDA food consumption survey, a good diet was specified as meeting the 1964 RDA's for seven nutrients (7). A fair diet was defined as meeting at least two-thirds of the RDA's for seven nutrients but less than the RDA's for one to seven nutrients. A poor diet meant that less than two-thirds of the RDA's were consumed for one to seven nutrients. In the food consumption survey, the USDA found that good diets among U.S. families had decreased from 60% in 1955 to 50% in 1965 (7). Poor diets increased from 15% to 21% in the same period. With the rising cost of living, the average weekly increase of money spent on food in the U.S. was from \$30.00 in 1955 to \$35.00 in 1965 for a family of four (7). The USDA has developed an Economy Food Plan (9) which estimates how much money is necessary to purchase sufficient food to meet the RDA's. The latest revision states that a family of four will need to spend \$106.00 per month on foodstuffs to meet the RDA's (9). Meeting the RDA's with this amount of money for four people can only be done with a wise selection of food. In the National Nutrition Survey, 35% of

the homemakers spent 68% of the amount specified in the Economy Food Plan per person daily on food (10). Therefore, according to USDA figures, 35% of these families could not be consuming diets which provided them with the optimum amount of nutrients. In the 1965 survey, a low income family was defined as one of four members earning less than \$3000.00 per year (7). Of these families, 36% had poor diets, 21% had fair diets and 37% had good diets.

In the latest revision of the RDA's in 1968, the caloric levels for young adults were decreased and the protein levels were also lowered (11). The RDA for iron has been increased for girls from ten years of age up and women in childbearing years. With these latest revisions of the RDA's reflecting more specific nutrient needs of the human body, the deficiencies noted, especially the iron deficiencies, in the 1965 food consumption survey are even more serious.

Clinical tests conducted in the National Nutrition Survey revealed a high prevalence of signs associated with inadequate nutrition, including growth retardation (12). Anemia was common as well as unacceptable levels of serum albumin, Vitamin A, Vitamin C and of urinary riboflavin. There was a high percentage of nutritional deficiencies in the very poor. In families where the income was \$1860.00 or less (one-half below the poverty line) for a family of four, 16.3% were severe risks and 44.7% were serious risks (13). People with two clinical deficiencies

constituted a serious risk while three or more deficiencies constituted a severe risk.

There is growing evidence that nutrition may affect intellect and behavior as well as physical growth in all stages of life (14). The United States ranks higher in infant mortality than eleven other nations (15). In the United States in 1968, approximately 105,000 babies died before they were one year old while another 100,000 were stillborn. A study conducted in New York City of 49 poor mothers and 203 non-poor mothers revealed that 37% of the poor mothers' babies and 27% of the non-poor mothers' babies were stillborn (16). (The U.S. Bureau of Labor Statistics index table was used to determine "poor"). Naeye stated, "Infants of poor mothers were 15% smaller than infants of non-poor mothers. Infants from poor families had multiple anatomic evidence of prenatal undernutrition. Undernutrition appears responsible for the prenatal growth retardation in infants from poor families" (16). Zee and associates (17) studied preschoolers from poverty stricken families in Tennessee and found that of the 300 children studied, one-half of the children were below the 25th percentile for height and weight on anthropometric charts. Anemia was common with 28% of the children less than three years of age having hemoglobin levels less than 10 gm/100 ml, while of those over three years of age, 25% had hemoglobin levels less than 11 gm/100 ml. The minimum level of hemoglobin in non-anemic states is 10-11 gm/100 ml (18). Retarded brain development can be

related to severe malnutrition after birth, because the human brain develops by cell division until the baby is approximately 6 months of age (19). According to Zee, the nutritional deficiencies occur despite the existence of food assistance programs and health facilities that are available.

"The situation is further compounded," as Stroud said, "by a national food supply so abundant in its volume, form and variety that even a nutritionist's head spins when he or she sits down with a calculator in hand" (20). Kotz discussed the 1965 National Food Consumption Survey results and revealed that the amount of money spent on such items as soft drinks, alcoholic beverages, potato chips and ice cream is directly related to income (21). This indicates that the poor do not spend their money any more "foolishly" than the non-poor.

National nutrition surveys have established that both the impoverished and the economically able appear to be suffering from malnutrition due to ignorance. As Mann stated, "There are more persons in U.S. malnourished because of nutritional ignorance and misinformation than because of poverty" (22).

Special Considerations of Nutrition Education

The facts are first of all, that the poor need food (23). Without food, nutrition education is meaningless but once food is provided to the poor, nutrition education is of paramount importance. Nutrition itself is

a 20th century science. Its development has been dependent on the maturation of modern chemistry, biological sciences and clinical medicine. There is a great gap, though, between nutrition knowledge and practice of good nutrition at all levels.

Nutrition education is a beginning of positive change. For nutrition education to be successful, it has to begin within the framework of the environment (24). It would be so simple in nutrition education if people could be taught what was "good" for them and they would immediately start practicing the principles of good nutrition. Food preferences rank high as emotionally and culturally based habits. An understanding of the interplay between nutrition and social or psychological tensions is needed (25). Life styles need to be identified and recognized among low income families. It is more expensive economically, educationally, psychologically and physically to be poor than to be economically stable (26). A three-pronged approach with educational, economic and psychological leverage has been recommended by Meyers. Nutrition educators have to possess the ability to inform, persuade and motivate individuals into patterns for protection of self and family (27).

The poor suffer the most from their ignorance of nutrition because their margin of safety is the smallest (28). Hunger and malnutrition have been stamped as shameful and indecent in our society (29) and a protective attitude of indifference established by a large percent of low income families is impermeable to educators from different income

groups. Nutrition education for low income families must assume a role of communicating with the people in a way so they are not jeopardized. Sanjur, in studying poverty in northern New York, related that although the concern for nutrition education for the poor has been prevalent for 25 years, a socio-economic approach is needed (30). Sexton found that programs made available to the poor will fail unless they can work together to change their environment. Residents of low income groups have an advantage of knowing the situations and being more readily accepted in teaching situations than strangers.

Programs Established for Improvement of the Nutritional Status in the United States

Many programs have been set up nationally, intended for social change and improvement. With Americans more aware of the problems of hunger and poor nutrition, the last thirty years have witnessed expansion and improvement of programs to improve nutrition among children and low income families. When the Food and Agriculture Organization (FAO) was organized in 1945 by the United Nations to improve nutrition (31), the United States agriculture began building surpluses of food-stuffs. Today the U.S. has the production capacity to feed everyone in the world (25). The National School Lunch program was set up in 1946 so that a balanced lunch could be offered to school children on a non-profit basis (32). When children cannot pay the full cost of the school

lunches, they may purchase them at a reduced rate or get the lunch free. In 1954, a special milk program was set up to reduce the cost of milk served to children and make milk available to schools until a complete lunch could be supplied. In Montana alone, participation in school lunch was over 30% of the total student population of 187,886 for 1970-71 (33). Total meals for March 1971 were 1,407,051 with an average daily participation of 61,235 (32.6%) students. The total free meals were 233,659 with 10,159 (16.6%) students participating while reduced price lunches totaled 19,721 for an average of 857 (1.4%) students (33). In Cascade and Yellowstone Counties, the average daily participation in school lunch for 1970-71 was (34,35):

	Cascade County	Yellowstone County
Free	1,366	774
Reduced	145	64
Pay full	<u>4,109</u>	<u>5,175</u>
Total	5,620	5,953

School lunch is available to both elementary and secondary schools, however all schools do not have school lunch programs.

Commodity foods have been donated to low income families for thrity years, although until the 1960's the foods donated depended upon supply factors and had little relationship to the nutritional needs of the people (32). A Food Stamp Program was introduced by the USDA in 1961 to increase a family's food purchasing power (32). Families could

food stamps with the money they normally spent on food, while the purchasing power of the stamps was much greater. For example, in Yellowstone County, Montana during June 1971, \$82,993.00 worth of food stamps were sold for \$37,472.20 (36). As of May 1970, Federal Food Stamp Assistance available was \$86,000,000.00 while participation in the program consumed \$5,900,000.00 of the total amount (37). The investigator suggests that people are not taking full advantage of the Food Stamps available because they do not know about the program or they think of the stamps as a handout and they are too proud to apply for them. Although the Food Stamps allow people to purchase food for nutritionally balanced meals, it does not guarantee good nutrition.

Expanded Foods and Nutrition Education Program

Nutrition education has always been a program of the USDA Extension home economics division, but the program was recently expanded to include a special area of nutrition education with the main focus on hard-to-reach, low income families (38). In 1968, the Federal Extension Service funded the Expanded Foods and Nutrition Education Program (38). It was set up in all fifty states, the District of Columbia, Puerto Rico and the Virgin Islands.

The EFNEP objectives were established at the program's inception. The primary objective was to help families in poverty acquire the knowledge, skills and changed behavior necessary to achieve adequate

diets (39). There were two supportive objectives of EFNEP. One was to increase participation of eligible families in USDA food programs and other forms of public assistance which may be available in the community. The second supportive objective was to recognize that other problems in family living must be identified and dealt with if the families were to acquire improved nutrition practices. The specific goals of EFNEP were (40):

1. To increase families' knowledge of the needs and essentials of good nutrition.
2. To improve their ability and practices in selecting and buying foods and preparing and serving them in nutritious and palatable meals.
3. To develop improved food handling and sanitation practices.
4. To enhance participating families' ability to secure and manage their resources so as to realize maximum value and satisfaction.

EFNEP operated mainly on a person-to-person basis, however some work is also done in small groups. The contacts with the low income homemakers are by para-professional Program Assistants (Aides). The Aides are hired from the community to be served by the program. One basis for hiring the Aides is their need for income. These qualities have been established as desirable for an Aide (41):

1. Empathy and compassion for low income families.

2. Keen perception and appreciation of various values and standards of our society.
3. Ability to work with people.
4. Maturity and flexibility, receptiveness to new ideas, and willingness to accept supervision from professional staff.
5. Energy, enthusiasm and willingness to work, even when results are minute and delayed.
6. Acceptable standards in homemaking skills.
7. Enough educational background to understand and follow training policies necessary for conducting an educational program on this level.

EFNEP was set up to guide those people who want and need help. With their background, the Program Assistants have an alertness to the problems of low income families. As Cook said, "The Program Assistants come from the community in which they work; know the people; they know the problems, they are neighbors of their clientele and are not regarded with suspicion as might be true with 'outsiders' " (38). Locally, the Aides work under a program Supervisor and the Cooperative Extension Agent. The cooperative Extension Agents are supervised by a state program coordinator with direction received from the USDA Extension Service. The administration of EFNEP is set up by the USDA Extension Service with flexibility for state and county staff to make modifications for their particular situations. A handbook (40) (developed by the

Montana Extension staff) outlining the program's operation is made available to all local Montana EFNEP centers. The basic training guidelines of all EFNEP employees in each state are outlined by the USDA Extension Service. EFNEP workshops are held on the state level for training of the Extension Agents before the program is introduced in their counties. Local EFNEP Supervisors are employed by the Cooperative Extension Agents. The Extension Agents are responsible for the subject matter and administration of the local program (42). When the Aides are hired, they participate in a three-week training session that includes training in Human Relations (43) and Nutrition (44):

Human Relations:

1. The Extension Nutrition Aide and Her Job.
2. The Time that Counts is "Right Now, Today".
3. Helping Homemakers Overcome Loneliness.
4. Feelings of Insecurity.
5. Trust and Respect.
6. Building Self Esteem.
7. Situations for Discussion or Roleplaying.

Nutrition:

1. Food Makes the Difference
2. Daily Food Guide
3. Key Nutrients
4. Foods Contain Different Amounts of Nutrients

5. How Your Body Uses Food
6. Food Needs Throughout Life
7. Feeding Young Children
8. Plan Meals to Meet Family Food Needs
9. Get More for the Food Dollar
10. Comparative Food Shopping
11. Preparation of Milk and Milk Products
12. Preparation of Vegetables and Fruits
13. Preparation of Meats
14. Preparation of Breads and Cereals
15. How to Take a 24-Hour Dietary Recall

The built-in training program and empathetic supervision in EFNEP provide confidence for non-professional program assistants in their work with low income families (38). Cook reported that working in EFNEP can be discouraging and frustrating because results are seldom spectacular but are a series of small changes that lead to meaningful improvement. One of the Cascade County Aides expressed depression and discouragement in the program when at times it was difficult to see any progress at all (45). "When we have had a bad week, we have to be able to relax and laugh at our staff meeting," stated Cutlip (45). The Yellowstone County Aides expressed positive feelings about being able to discuss problems with the Extension Agent and their Supervisor, saying it gave them a great boost in morale (46).

A private corporation has been employed by the USDA Extension Service to interpret EFNEP progress by the use of datagraphics (42). Reports from local centers are sent to the state coordinator who sends the state progress report to national headquarters. The reports tell how many low income families are being served, on an individual basis or in groups and the total number of families being served. The number of families per Aide is also reported. As mentioned earlier of the national program such as EFNEP, the datagraphics may differ in each county and in each state. This may be due in part to a misinterpretation of guidelines.

Nationally, EFNEP Aides are serving an average of 54 families per fulltime Aide (47). As of March 1971, 9073 EFNEP Aides were serving a total of 293,099 Program families (42). In Montana as of June 1971, 25 Aides were serving 1041 program families in 11 EFNEP centers, an average of 40 families per fulltime Aide (48). Both fulltime and parttime Aides are employed in EFNEP but reports are done in terms of fulltime equivalents.

Montana's EFNEP

Montana was introduced to EFNEP in 1969. The pilot center, Cascade County, hired its first Aides February 3, 1969 (42). Yellowstone County has been in EFNEP since October 1969. Nine counties and two Indian Reservations now have EFNEP centers in Montana (48). The policies and administration of the state program are those recommended

by the USDA Extension Program. However, the policies and administration of centers within the state are widely varied.

Extension Agents and Supervisors. The Extension Agents working as administrators of the local EFNEP are women agents. In Yellowstone and Cascade Counties, these agents work specifically with foods and nutrition. Both Extension Agents had just begun working in this area of the USDA Extension Service when EFNEP was introduced in their counties. The Extension Agents recruited Supervisors to work with the Aides.

The Supervisor in Yellowstone County is a para-professional with 22 years experience as a 4-H leader and experience in Extension Home-maker Clubs. Under the direction of the Extension Agent, she coordinates the EFNEP activities of the Aides. She also works with families in the field. Cascade County has had several Supervisors. All of them have been professional home economists. The most recent Supervisor taught high school home economics prior to working as a Supervisor for EFNEP. Through consultations with the Extension Agent, she directed the activities of the Aides. Three months after she accepted this position, she resigned to take a position teaching high school. At writing of this paper, Cascade County does not have a permanent Supervisor. The Aides have been delegated to be acting Supervisor for one month each on a rotating basis until a permanent Supervisor is obtained.

Recruiting and Training of Aides. When a position is available for an Aide, it is advertised in Yellowstone County through agencies that work with low income families. Interested homemakers apply for the job through the Extension Service. They are interviewed by the Extension Agent before she makes a final decision in hiring them. All Aides in Yellowstone County need the income they receive from working in EFNEP. The Aides are selected not only on their qualifications but for the specific needs of the low income families. Some Spanish speaking Aides are needed in Billings because several families do not speak English. Presently, there are two Spanish speaking Aides to serve these families.

Cascade County Aides were initially contacted by the Extension Agent about the position with EFNEP. The Aides hired since the initial Aides started work in Cascade County heard about the opening by word of mouth. They fill out applications and are interviewed by the Extension Agent who does the hiring. All Aides in Cascade County were not receiving public assistance nor did they need the income they would receive as an EFNEP employee.

Aides are trained in a three-week session with the Extension Agent and Supervisor before they begin making homemaker contacts. The training session in both counties includes basic nutrition and human relations lessons. In Yellowstone County, the Extension Agent and Supervisor set up lesson plans for each session and always work together

with the Aides. In Cascade County, the Supervisor conducts the training sessions. The Extension Agent attends some of the training sessions.

Bi-monthly meetings are held in Yellowstone County for all EFNEP employees to evaluate the two weeks' activities and discuss any problems encountered. A schedule is set up for the next two to four weeks so the Aides may set aside a time to plan group meetings. The Agent, Supervisor and Aides discuss the possible needs of any further training sessions in a specific area.

Cascade County has weekly staff meetings and some randomly set meetings. The Supervisor sets up the agenda for the meetings and instructs the Aides on the selected topic. Often the Supervisor goes into detail that the Aides do not use in their work (45). The Aides should be given only the background material they will need in working with low income families (47). When the Aides request additional training in a specific area, a session is set up to cover the requested topic. In some instances, other agencies or professionals are brought in to present topics. Both counties employ other agencies to present topics of interest and need to the Aides. When new Aides are employed, the veteran Aides assist in training them by relating their experiences in making family contacts.

Obtaining Family Referrals. Without families to work with, EFNEP could not operate. Good relations must be established with other agencies in the county that work with low income families (49). The Yellowstone Cooperative Extension Agent introduced the program to related agencies in the county and requested their support. Several of these agencies are the channels through which low income families are referred for guidance. These agencies: Work Incentives Program, Planned Parenthood, Parents Without Partners, Community Action Program, Senior Citizens, and the Welfare Department also recommend homemakers as potential Aides in EFNEP. The local school system and ministers and priests assist in recommending families and homemakers. Reciprocation of referrals to these agencies is done by EFNEP when the situation warrants it. The Supervisor in Yellowstone County said she gets the best referrals from the teachers, principals and nurses of the school system (50). In both counties, referrals are made to the Aides by homemakers. They refer friends who they know need the help (51).

EFNEP was introduced to agencies working with low income families in Cascade County by the Extension Agent. The agency that makes referrals available to EFNEP is the Food Stamp Program. Currently the Extension Agent goes to the Food Stamp office when time allows and takes names from the list of those receiving food stamps (52). The other agencies are not presently contacted for referral of low income families.

Frequency of Visitations. In both counties, the frequency of visitations depends on the families, the number of families each Aide contacts and the working schedule of the Aides. Some of the families want to be visited by the Aide each week or only once a month. If an Aide has 20 families, time allows her to contact her families more frequently than if she has 40 families. There is no set number of visits a family should receive from an Aide per month.

Graduation of Program Families. When program families have progressed as far as they wish to in the program or as far as the Aides can guide them, they are graduated from the program (50). The Aides determine the graduation of a homemaker by discussing it with that individual homemaker. In both counties, the Aides periodically recontact graduated families with new recipes and wise shopping tips.

Families whose names are referred to EFNEP but after several visits are unresponsive to the Aides' contacts are dropped from the list of families. In some cases, the problems of the family are referred to another agency.

Record Keeping Methods. The datagraphics used by the national EFNEP program are used in Yellowstone and Cascade Counties, however interpretation of the datagraphics is different in each county. In Cascade County when a family is graduated, they are kept on the records as a program family. In Yellowstone County they are dropped from the

records. Currently if an Aide quits, her families remain on the record in Cascade County although no one is contacting them. In Yellowstone County, the Supervisor visits these families and determines if they can be graduated or if they should be transferred to a present Aide for further guidance.

The Aides keep records on each family they have in EFNEP. Family histories, food recalls, monthly food expenditure and nutrition knowledge of the homemaker is kept by the Aide. In Yellowstone County, the Supervisor has a copy of these records and reviews them periodically with the Aide. This way she keeps records of the families referred, contacted and graduated from EFNEP. The Cascade County Supervisor does not keep these records.

Evaluation of EFNEP

Constant research and evaluation of methods effective in nutrition education are vital for progress. Problems may be encountered in program evaluations when considering what the evaluation should determine. Appropriateness, adequacy, effectiveness and efficiency are the four types of evaluations that are intended to measure the objectives of a program (4). An operation may have side effects, good or bad, that are not apparent from evaluating the objectives. Deniston stated, "The operators of a program often presume that if the budget is of a particular size, if the personnel possess certain credentials, and if certain

activities are performed; the program has some degree of effectiveness" (53).

Many judgments are based on available data in EFNEP. The current datagraphics make evaluation of EFNEP difficult. Mrs. Ella Mae Berdahl, Program Coordinator for the Western Region of EFNEP, stated that California never drops or graduates a family from the program, so the datagraphics report may have as many as 147 families per Aide, although they are not currently working with that many families (47). EFNEP families at some centers are recontacted periodically with recipes and newsletters but when they are not working regularly with the Aides, the datagraphic reports do not show this. The Aides obtain 24-hour recalls of food eaten by the homemaker for a quantitative evaluation of their food intake (41). The foods eaten are recorded but not the amount. No consideration is made of whether food stamps have just recently been received or if the families have no resources for food (41). The recall also does not indicate if they really eat the food they list or if they just know they should. When there may be so many variables, the evaluation may not be valid.

Everyone with any knowledge of a program evaluates it, each one selecting signs of success and data to measure the criteria. Again, the datagraphics may be used as a reference. If the Aides in one county are serving 20 families per Aide and reaching all the families needing the

services, they cannot be compared to the Aides serving 60 families each, yet not reaching half the people.

Several evaluations of EFNEP have been conducted since its inception. The USDA Extension Service employed Datagraphics, Inc. to do an early study of EFNEP in seven states to determine the initial program operation in terms of EFNEP objectives (39). A second study was completed in May 1971 by Synetics, Inc. in which the same states were studied plus three additional states (54). Primarily the data were collected by observation and interview of State Extension Staffs, Agents, assistants, Aides and homemakers. Additional information was obtained from a review of the program records.

EFNEP was studied in Maryland with the focus on the educational tasks of the Aide in providing change in the dietary practices of the homemaker (55). The homemaker and Aides were the primary sources of data. Interviewers were trained by the Extension staff to interview homemakers administering the questionnaire that had been developed.

A study of the different methods of presentation in Mississippi's EFNEP revealed that the Aides' improvement in nutritional practices was significant (56). The homemakers were interviewed by trained personnel after they had been guided by one of the methods of education.

Information was compiled on EFNEP in California by two nutrition specialists. The methods used were not described in the evaluation that Frances Cook published in the Journal of Nutrition Education (38).

Datagraphics, Inc. came to these conclusions in its evaluation in 1969 (39):

1. EFNEP has come into being with impressive speed and a minimum of false starts.
2. Participant acceptance of the program is high.
3. There are many signs that the program is in a position to achieve the stated objectives, some signs that the objectives are being achieved and no signs that the objectives cannot be achieved.
4. The use of indigenous program Aides has worked well and has great potential for the future.
5. The program needs selective improvement of management techniques.
6. There is great variation among sites, with much variation in program and operation determined by the strength of the local supervising agent.
7. The target population is being reached, but there is a need for improved techniques to concentrate on those in the greatest need.
8. The program needs improvement in working effectively with other agencies.
9. The future of the program is hampered by a lack of adequate development resources.

The 1971 study by Synetics, Inc. verified parts of the previous evaluation and included additional findings in their report. The evaluation revealed a greater precision is required in the allocation of effort. It was revealed that only indirect means are available for demonstrating important achievements in nutrition-related practices. It is felt by the evaluators that the capabilities of the Extension Agents are increasingly stressed. Reasonable progress appears to have been made in establishing the program within the total community setting (54).

"Poor but not Forgotten," the EFNEP evaluation in Maryland revealed (55):

1. Homemakers felt that EFNEP had been helpful to them.
2. Homemakers learned to use foods they had not previously used.
3. Aides did an effective job of developing and utilizing other resources within the counties on behalf of their families.
4. Cooperation from other agencies was generally good.
5. One of the Aides' greatest strengths lies in the intimate knowledge of the demographic and social stratification features of the country.
6. Aides' morale is generally high.

According to Cook (38), the homemakers working with the Program Assistants toward common goals are more easily motivated to progress than the homemakers working with professional home economists. Low income families often have feelings of fatalism that can only be

overcome with role transition. To identify with a new role, it is important to master the necessary skills and increase self-confidence. Only then can the new role be executed with success in any situation (57).

If planning and supervising are good and evaluation is poor, the program may be effective but the reasons why it is effective may never be known (57). The USDA Extension Service has set up evaluations to be used by the local EFNEP centers. The family profile on each family that the Aides update every six months is for family progress evaluation (42). A checklist of how the Aides are doing in EFNEP is to determine their strengths and weaknesses (43). These evaluations are for local use and are not relayed in the monthly datagraphic reports.

Evaluations on the state and local levels assume several forms. The second Montana statewide meeting of EFNEP Supervisors, Aides, Extension Agents and state staff was held March 1971 (42). The EFNEP employees exchanged ideas and discussed their methods used and their experiences in the program. The current status of EFNEP in Montana was discussed openly and plans for further expansion presented.

EFNEP centers in Montana are compared with the use of the monthly datagraphic reports even though there is no consistency in the reports. In Yellowstone County, family profiles are discussed with the Supervisor to determine the progress of the families. Aides are evaluated in Yellowstone County by the Extension Agent and Supervisor on a yearly basis. The evaluation used was devised within the center. As of

March 1971, Cascade County was in the process of devising an Aide evaluation form (58).

It is presumed by many that EFNEP in Montana is largely successful. The success has not been measured or evaluated objectively except by the limited datagraphics. Since Montana is a rural state, the results of evaluations conducted in other states may not indicate progress in the local program. This study was designed to evaluate the effectiveness of the program by comparing the methods used and the knowledge, skills and motivation generated through those methods.

CHAPTER III

PROCEDURE

Population Description and Sampling Procedure

The EFNEP in Cascade and Yellowstone Counties were the programs where the emphasis of this investigation was to be placed. These two counties were selected for several reasons:

1. Both counties have been in the program a reasonable length of time.
2. Both counties are very close to the same size in total population.
3. Both counties have a minority population of which a segment is being served by EFNEP.
4. Cascade County has had professional home economists for Supervisors while Yellowstone County's Supervisor is a para-professional.

The Aides of both programs had non-select racial groups of homemakers to work with so the sample included some families under training of each Aide. The nine Aides in these two counties had expressed concern that all of their EFNEP families would not cooperate in the investigation so the Aides were asked to list a cross section of their families that would cooperate. The goal was to obtain a sample from each county that represented 50% of each EFNEP Aides' families. Since not all races

were represented in both counties, no attempt was made to survey the racial groups for comparison. When the Aides' lists were drawn up, the samples to be interviewed were as listed in Table I.

TABLE I
SAMPLE SIZE AND RACIAL BREAKDOWN AS SELECTED FOR SURVEY IN
CASCADE AND YELLOWSTONE COUNTIES

Characteristics	Cascade County	Yellowstone County
Total number of program families in the sample	83	44
Percent of total EFNEP families in county	26%	39%
Breakdown of sample according to race (%) ^a		
Caucasians	83	38
Indians	14	9
Spanish Americans	2	45
Negroes		6

^a Percentages were rounded off to the nearest whole percents, so percents given may not total 100%.

Due to the nature of the information sought in this investigation, it was not deemed necessary to categorize the families in regard to age of the homemaker, family size or length of time in EFNEP. That other factors would enter into specific results obtained was not ignored, but these various factors are discussed in context as they arise and become important.

Survey Instrument

A questionnaire was developed with the assistance of the Aides, Extension Agents and the state EFNEP Director (Appendix A). It was pre-tested in Gallatin County with 24 homemakers and revised according to the responses and recommendations received. The homemakers who pre-tested the survey instrument were Extension homemakers, mothers of 4-H club members and Aid to Dependent Children (ADC) mothers.

The questionnaire was designed to obtain information concerning acceptance and use of the EFNEP guidelines as well as indications of increased motivation and knowledge in the area of good nutrition and economic buying of foodstuffs. The questionnaire was composed of 20 questions including multiple choice, yes-no, short answer and open ended questions.

Methods of Collecting Investigation Data

The investigator collected the desired data during June and July 1971. The data collection resulted from a part of home visitations with the homemakers that were conducted by the Aides. The Aides introduced the investigator to the homemakers. A structured interview was done with each homemaker contacted by employing the survey instrument. They read the questionnaire along with the investigator as the investigator recorded each homemaker's responses. Time spent per interview ranged from 15 to 45 minutes. The Aides were oriented to the purpose of the study and familiarized with the information desired from family contacts prior to home visitations. In instances where there were language barriers between the investigator and homemaker, the Aide served as an interpreter. All personal information concerning age, family size, income, education, marital status and income spent on foodstuffs was obtained from EFNEP files. The first dietary recall taken when the homemaker entered EFNEP was taken from EFNEP files. The first knowledge the homemaker related to the Aide concerning what she felt one needed to keep healthy in terms of breakfast, dinner and supper was also obtained. This knowledge will be referred to as the first knowledge in this paper.

The Aides, Extension Agents and Supervisors in each county were interviewed (Appendices B and C) in the study. They were questioned concerning methods of presentation, nutrition knowledge, interest in the

program, self-improvement, likes and dislikes in the program. These employees read the questions and responded verbally while the investigator recorded the responses.

Interviewing Other Agencies

To better understand the other agencies working with low income families, the investigator questioned officials of the welfare program, food stamp assistance, housing authorities and the school systems concerning their facilities to accommodate low income families.

Treatment of Data

The data was analyzed using item analysis and means. Item analysis was used to determine what percentage of homemakers responded to each choice of answers. The means of age, number of children, years of education, length of time in the program, and average age of the children were determined. The item analysis and means from each center were compared to determine the effectiveness of the methods used (Appendix D). The questions of the survey instrument were categorized according to knowledge, skills and motivation. Criteria were set up for scoring each response on a scale to obtain a percent score in each area in relation to the total score possible.

CHAPTER IV

RESULTS AND DISCUSSION

Characteristics of Samples

Thirty-eight homemakers in Yellowstone County and 77 in Cascade County were reached with the questionnaire (Appendix A) during a six-week period from June 13, 1971 to July 23, 1971. The racial composition of the two samples was very different (Table 2). The large percent of Spanish American EFNEP families in Yellowstone County may stem from several factors. Two Spanish American bi-lingual Aides currently employed in Yellowstone County contact many Spanish speaking homemakers. A migrant school in Yellowstone County often refers Spanish American families to EFNEP. The variety of avenues used to obtain family referrals allows EFNEP to expand to all areas of the county. The Spanish American population in Yellowstone County as of 1970 was approximately 1,896 which is 3% of the total Yellowstone County population (59).

In Cascade County, the Indian population of 1,959 people or 3% of the total county population (60) is almost equivalent to the Spanish American population of Yellowstone County. The small percent of Indians in Cascade County being reached through EFNEP may be related to several factors. The referral system used in Cascade County to obtain families may not allow EFNEP to cover all areas of the county.

TABLE 2
 CHARACTERISTICS OF SAMPLES IN YELLOWSTONE
 AND CASCADE COUNTIES

Characteristics	Cascade County	Yellowstone County
Race		
Caucasian (%) ^a	81	42
Indian	15	10
Spanish American	3	39
Negro		8
Mean Age of Homemaker (years)	38.7	37.1
Average Number of Children per Family	4	4.5
Mean Age of Youngest (years)	4.5	4.2
Mean Age of Oldest (years)	11.6	12.2
Average Education of the Homemaker (years)	10.1	8.8

^a Percentages were rounded off to the nearest whole percent, so the percents given may not total 100%.

Presently there are no Indian EFNEP Aides in Cascade County. One Caucasian Aide told the investigator that it was almost impossible to be accepted into an Indian home (61). Indian Aides have been employed in Cascade County prior to this study but when the Indian Aides quit working in EFNEP their families were not carried further in the program by another Aide. The income level of the Indian population in Cascade County is not known, but the investigator believes that many of the Indian families are in great need of nutrition education. Participation of the Indian population may be increased by good publicity and recruitment of Indian Aides.

The homemakers surveyed ranged in age from 14 to 84 years in Cascade County and from 18 to 71 years in Yellowstone County. The households in Yellowstone County were larger than those in Cascade County. The average age of the youngest and oldest children in both counties was similar (Table 2).

Although there is a wide variety of homemakers in each county program, the investigator feels that Yellowstone County EFNEP is reaching a more needy group of low income families than Cascade County EFNEP. The homemakers surveyed in Yellowstone County averaged 1.1 years less education than those in Cascade County. Over half of all homemakers surveyed in both counties do not receive public assistance (Table 3). However, according to the annual income of the families, Yellowstone County has a lower income average with larger families

TABLE 3

INCOME SOURCE AND AMOUNT OF SAMPLES IN
YELLOWSTONE AND CASCADE COUNTIES

Characteristic	Cascade County	Yellowstone County
Income Source (%) ^a		
Welfare	12	18
ADC	18	27
Social Security	15	
Alimony	1	
Self	52	54
Income Amount (%)		
Less than \$3600	48	38
\$3600 - \$4200	14	31
\$4201 - \$4800	16	9
\$4801 - \$5400	2	11
\$5401 - \$6000	7	9
\$6001 - \$6600	3	
\$6601 - \$7200	3	
\$7201 or more	3	

^a Percentages were rounded off to the nearest whole percent, so the percents given may not total 100%.

than Cascade County (Table 3). The majority of homemakers in both counties spent from \$0 to \$120 per month on groceries. A greater percent of homemakers surveyed in Yellowstone County received food stamps than those in Cascade County at the time of the survey (Table 4). Although the families in Cascade County were referred to EFNEP through the Food Stamp Program, not all of the families continue to be eligible for food stamps. The investigator found that this was due to a temporary unemployment period for some of the families. The Yellowstone County Aides explained to the investigator that many of the families they contacted did not know food stamps were available or if they knew about the stamps they did not know they could get them. The Aides assisted these families in applying for food stamps.

The investigator believes there are several factors that point to a greater need for EFNEP among Yellowstone County families than among Cascade County families. In Cascade County, all avenues are not employed for obtaining family referrals. The hard core Indian population of this county is almost completely impermeable to an Aide of another race. More emphasis on the minority groups may result in service to the more needy families. Hard-to-reach low income families often do not want to mix with other people. The large percent of group contacts made in Cascade County (Table 5) may discourage hard core homemakers from participating in the program. The safety of the Aides is considered at all times in EFNEP. One of the Cascade County Aides works nights,

TABLE 4

FOOD STAMP PARTICIPATION, FOOD EXPENDITURE AND SCHOOL
LUNCH PARTICIPATION OF SAMPLES IN YELLOWSTONE
AND CASCADE COUNTIES

Characteristics	Cascade County	Yellowstone County
Percent of Families Surveyed Participating in Food Stamps*	56	61
Monthly Food Expenditure (%)**		
\$60 or less	28	29
\$61 - \$120	36	42
\$121 - \$180	19	6
\$181 - more	3	8
School Lunch (%)***		
Participate	52	74
Do not participate	4	3
Not available	6	
No children of school age	38	24

* Only those participating are accounted for here.

** Total does not equal 100% because not all food expenditures were known.

*** Percents are rounded off so total may not equal 100%.

TABLE 5

TIME, NUMBER AND METHOD OF PARTICIPATION IN EFNEP IN
YELLOWSTONE COUNTY AND CASCADE COUNTY SAMPLES

Characteristics	Cascade County	Yellowstone County
Average of Time in the Program (months)	12.7	10.3
Method of EFNEP Contact (%)		
Group	36	0
Individual	64	100
Actual Number of Contacts (%)*		
0 - 5	21	13
6 - 10	20	38
11 - 15	16	13
16 - 25	14	18
26 - 35	13	9
36 - 45	10	2
46 or more	2	2

* Percents are rounded off so total may not equal 100%.

therefore limiting her contacts with families to the "safe" districts of town. As Cook said of the EFNEP Aides (38), they are effective because they come from the community in which they work and are not regarded as "outsiders". Not all Aides in Cascade County do come from the community in which they work. Perhaps someone from another community in town does not really understand the problems homemakers encounter in their own communities, so the Aide has a tendency to work with people closer to her own social class or with a group for more personal comfort.

Methods of Instruction

The approach the Aides used with the homemakers reflected their training. There was a noticeable difference between the Aides' methods supervised by a professional and those supervised by a para-professional. The method used by the Supervisors in training the Aides was carried over by the Aides in working with the homemakers.

The para-professional Supervisor sits with the Aides and they work together to learn what, where, why and how. When these Aides work with the homemaker, they discuss the nutrition interests of the homemaker in the same manner. Instead of a show and tell session in breadmaking or menu planning, the Aide and homemaker exchange ideas and develop together. When the homemakers are brought together for a group meeting, everyone has an important part in the activities.

The professional Supervisor trains the Aides in more structured lessons. The Aides observe while the Supervisor demonstrates or lectures; or the Supervisor instructs the Aides while they do the food preparation. In working with the homemakers, these Aides assume a role similar to that of their Supervisor. In large groups of homemakers, the investigator observed a lecture-type of presentation with little group participation. The Cascade County Aides expressed concern that limited preparation time for their lessons does not allow a delegation of duties to the group members. Yellowstone County Aides set aside a time each week to plan the details of a group meeting so they can delegate responsibility to the homemakers.

The Yellowstone County Supervisor told the investigator that she takes a lot of time to get to know her Aides. She tries to be available whenever they need to talk to her about current problems. If she is not available, the Extension Agent can be contacted in her place. The Supervisor works in the field, not only with her program families, but accompanying the Aides periodically to meet their families and observe the Aides at work. The Aides in Yellowstone County had nothing but praise for the Supervisor and the Extension Agent when the investigator accompanied them in the field.

The most recent professional Supervisor in Cascade County established office hours when the Aides could contact her. Yet the Aides were distressed at times during these established hours when they could

not find the Supervisor. The professional Supervisor was concerned with the "chain of command" not being clearly defined in the program. When the investigator asked her what she liked least about EFNEP, she said her dislike was having to visit the low income homemakers in their homes. The investigator feels it is of paramount importance that the Supervisor knows what is happening in the field and that she have some empathy for the people EFNEP is set up to serve. Professional contacts were the most desirable assets she felt EFNEP had to offer her.

Nutrition facts relayed to the Aides in Yellowstone County are kept very basic. Mrs. Ruth Pierson, Extension Agent, said, "It is important to convey nutrition facts to the Aides at a level where most of the homemakers they reach will be at. We always have material available to expand any area of nutrition when the Aides have the need for it" (49). The Supervisor said that they construct lessons at an eighth grade level. Nutrition knowledge of both Extension Agent and Supervisor was deemed quite adequate by the investigator when they were interviewed with the questionnaire (Appendix B). In instances where an answer was not known, they simply stated that they did not know the answer and would have to look it up. The Yellowstone County Aides demonstrated adequate nutrition knowledge and if an answer was not known they said they didn't know.

The Cascade County Cooperative Extension Agent told the investigator that their nutrition education sessions are aimed at an education level between the 9th and 12th grades. The professional Supervisor instructed the Aides in detailed nutrition facts and went into detailed consumer education. The Aides expressed personal benefit from the detailed lessons, however they said they have not used the information in working with their families. Nutrition knowledge of the Aides in Cascade County was adequate when interviewed with the use of a questionnaire (Appendix C) and, like the Yellowstone County Aides, if they did not know an answer, they said so. The investigator received some incorrect answers concerning nutrition facts when interviewing (Appendix B) the Cascade County Cooperative Extension Agent. Unlike the other agent and Supervisors, she did not ask for corrections when the interview was complete. It is the opinion of the investigator that this Extension Agent's demand for a professional Supervisor is due to the Agent's lack of knowledge. The Cascade County Supervisor showed an adequate knowledge of nutrition. Both Extension Agents expressed difficulty in delegating enough time to EFNEP in their schedule. The Yellowstone County Cooperative Extension Agent has set aside eight hours a week for EFNEP. The Cascade County Cooperative Extension Agent has no set amount of time for EFNEP each week.

The investigator has no doubts that the influence and cooperation of the Extension Agent and Supervisor is a factor in the method of

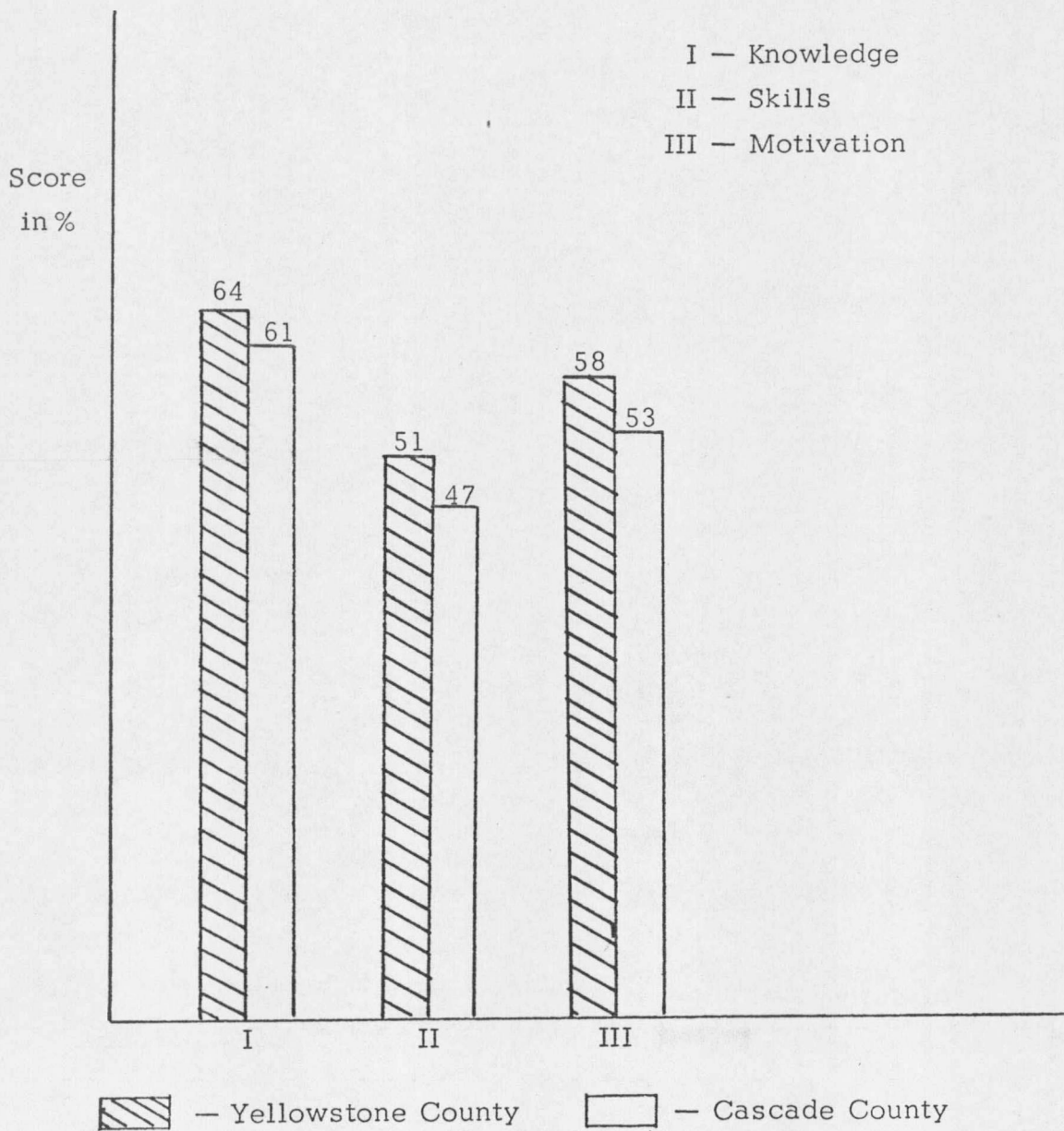
guidance the Aides use with the homemaker. Yet the investigator observed flexibility of the Aides in working with the homemakers. The Aides changed approaches from homemaker to homemaker according to the homemaker's needs, level of education, length of time in the program and the home situation on the day of the visit. All homemakers in Yellowstone County are guided on an individual basis and brought together periodically for group meetings. In Cascade County, 36% of the homemakers are contacted only through group work (Table 5). The groups consist of three or more homemakers meeting in one of their homes or in a public place.

Knowledge, Skills and Motivation Compared

Only slight differences were found between Cascade County EFNEP and Yellowstone County EFNEP homemakers in comparing knowledge, skills and motivation but a definite trend was indicated. The Yellowstone County EFNEP homemakers scored consistently higher than Cascade County in all three areas (Figure 1). The reverse was anticipated by the investigator, not only because the education level and average income were higher in Cascade County but they also averaged 2.4 months more time in EFNEP than in Yellowstone County (Table 5). The Cascade County homemakers surveyed had been contacted 26 times or more by the Aides in 11% more of the cases than homemakers in Yellowstone County (Table 5).

FIGURE 1

COMPARISON OF KNOWLEDGE, SKILLS AND MOTIVATION IN
YELLOWSTONE COUNTY AND CASCADE COUNTY SAMPLES



In determining the present knowledge of the homemakers surveyed questions were asked concerning: beverages served to children, the necessity of milk for adults, the nutrient importance of fruits, good food sources of protein, cost of common breakfast items and the basic four food groups (Appendix A). Skills were rated according to the answers given for: ways to stretch meat, grocery shopping techniques, cost analysis of food, economical sources of Vitamin C, menu planning, and use of the Master Mix (all purpose mix). Motivations of the homemakers was evaluated by means of questions about feelings concerning EFNEP, kinds of food served and amounts consumed, use of the Master Mix and powdered milk, grocery shopping, planning ahead and continuance of EFNEP practices when no longer in the program.

Of the homemakers surveyed in Yellowstone County, 53% served their children milk most often compared to 38% in Cascade County. Kool-aid was the second most frequently served beverage for children, 25% and 26% in Cascade and Yellowstone Counties respectively. The average number of glasses served per day varied widely from one to five or more in both counties. The hot summer weather at the time of the survey was a factor in the consumption of beverages. Homemakers had all been given the facts concerning powdered milk and its use. Several homemakers surveyed expressed a difficulty in getting their children to drink it so they just didn't continue to make it available. Some said they had success mixing it with whole milk for drinking. Only 31% of

the homemakers in Cascade County and 34% of the homemakers in Yellowstone County use powdered milk for drinking. Over half of the homemakers, 55% and 53% in Cascade and Yellowstone Counties respectively, do use it in cooking. While 92% of Cascade County homemakers surveyed know milk was necessary for adults, only 8% of them drink it. Ninety-seven percent felt it was necessary in Yellowstone County while only 10% consumed it. Some homemakers said they liked it but it was too expensive for them to drink, yet they wouldn't try to use powdered milk for drinking.

The fact that fruits contain vitamins was known by 64% of the Cascade County homemakers and 71% of the Yellowstone County homemakers. Yet when the homemakers were asked to name the four food groups, 51% of the Cascade County homemakers did not mention fruit in the fruit and vegetable group. Of the homemakers surveyed in Yellowstone County, 65% did not name fruits in the four food groups. The investigator believes that the homemakers have a tendency to name the basic food groups in terms of what they have been consuming recently. This may be a reason for fruit not being mentioned in the four food groups. With the late growing season in Montana and the high cost of imported fruit from southern states, many homemakers could not afford an abundance of fruits in their menus at the time of the survey.

When homemakers were given a choice of foods as good sources of protein, only 21% of the homemakers surveyed in both counties named

all of the foods listed that were good sources of protein. Ten percent of the homemakers in Cascade County did not know what a protein was, while 16% in Yellowstone County did not know. The investigator feels it is not necessary for a homemaker to know what a protein is, if she shows she should consume meat and/or meat substitutes each day. Well over half, 66% and 61%, of the homemakers surveyed in Cascade and Yellowstone Counties respectively, named meat as a basic food group and said people need to eat two or more servings of it each day. When the investigator discussed menu planning with the homemakers, they all said that they planned their meals around the meat dish.

The homemakers do not frequently plan meals ahead of time but usually plan a meal at a time. They said they usually have an idea of how much they will need when they go grocery shopping. Of the Cascade County homemakers surveyed, 13% plan meals a week at a time, 13% plan a day at a time and 71% plan a meal at a time. Only 3% never plan meals. Yellowstone County homemakers do not plan ahead as much as Cascade County homemakers. Of those surveyed, 10% plan a week at a time, 5% a day at a time and 84% plan a meal at a time. The investigator believes there are two factors affecting the meal planning. One is that Cascade County homemakers are made more familiar with menu planning through Aide contact than those in Yellowstone County. Second, the Yellowstone County homemakers are at a lower average education level than Cascade County homemakers and perhaps it is too

difficult to do extensive menu planning. The investigator believes that menu planning a week ahead of time is not essential if the homemaker serves balanced meals without extensive pre-planning.

Half of the homemakers surveyed served their families two vegetables each day. Only 3% and 8%, in Yellowstone and Cascade Counties respectively, served no vegetables. The fact that 95% of the Cascade County families and 89% of Yellowstone County families enjoy a variety of more than three vegetables enabled the homemakers to serve many vegetables without constant repetition. The homemakers serve a variety of bread and cereal products to their families. Even though many homemakers said they thought starchy foods were very fattening, a good percent of them consume four or more servings of bread and cereals per day (Table 6). Four to six servings per day was the most common amount consumed (Appendix E). An economical mix (the Master Mix or all-purpose mix) has been introduced to the homemakers for making breads, cakes and cookies. Of the homemakers surveyed in Yellowstone County, 82% were introduced to the Master Mix and 50% use it in their meal preparation. In Cascade County 57% were introduced to it and 26% use it. Perhaps the larger use of Master Mix in Yellowstone County stems from the homemakers having little or no variety in their meals before becoming an EFNEP member. The investigator believed the higher income of Cascade County homemakers permitted them more variety in breads, cakes and cookies before being introduced to EFNEP so their

TABLE 6

FOOD CONSUMPTION AND KNOWLEDGE OF BASIC FOUR AS
DETERMINED IN FIRST INTERVIEW (a) AND IN
RECENT INTERVIEW (b)

Food Group and Number of Servings*	First Recall (a)	First Knowledge (a)	Name Basic 4 (b)	Food Consumed (b)
Milk (%) Two or more servings	25(36)	41(43)	60(52)	
Fruits and Vegetables (%) Four or more servings	25(22)	40(51)	25(16)	4(6)
Breads and Cereals (%) Four or more servings	36(27)	27(26)	25(18)	63(66)
Meats (%) Two or more servings	52(71)	55(60)	66(61)	

xx — Cascade County

(xx) — Yellowstone County

a A 24-hour dietary recall was taken when the homemaker first began in EFNEP as a program homemaker. A record of what the homemaker thinks one should eat to keep healthy was also taken at this time.

b When the homemakers were interviewed in this study, they were asked to name the four food groups and the amount one should eat. Questions in the interview revealed the current amount consumed per day for two food groups.

* The USDA Basic Four Food Group Charts state that people should consume 2 or more servings of meat and meat products and milk and milk products; and 4 or more servings of each other group per day.

need for the Master Mix was not as great as that of Yellowstone County homemakers.

Casseroles are stressed by the EFNEP Aides as being economical and timesaving. The families have to like such things as casseroles before they can really be economical and timesaving. The investigator found that 95% of Yellowstone County families and 79% of Cascade County families like casseroles. When the homemakers were asked to name some of the ways they extend meats, many indicated use of casseroles and other mixed dishes. In Cascade County, 42% of the homemakers indicated at least one use of meat in mixed dishes. Thirty-nine percent of Yellowstone County homemakers named at least one use of meat in a mixed dish. Many homemakers seem aware of the ways the basic food groups can be incorporated into a mixed dish. When they were asked to identify how many food groups were represented in a casserole, 55% of Yellowstone County homemakers correctly identified the foods. Of the Cascade County homemakers, 49% gave the correct answer.

Grocery shopping was one of the areas that many homemakers expressed gratitude to EFNEP for personal improvement. Many mentioned that they grocery shopped every day or every other day before they were introduced to EFNEP. The majority of homemakers surveyed now grocery shop once a week, twice a month or once a month. Only 20% of the Yellowstone County homemakers shop two or three times a week and 19%

of Cascade County homemakers do the same. Fifty percent of the homemakers in Yellowstone County said a grocery list helped to get only those things one needs. Forty-five percent of the homemakers in Cascade County expressed the same feelings. In both counties, the homemakers felt that saving time and money were secondary assets of a grocery list. EFNEP homemakers seem to be aware of foodstuffs that are money-saving buys. When given a choice of two breakfasts, 85% of the Yellowstone County homemakers correctly identified the cheaper breakfast. Of the Cascade County homemakers surveyed, 81% correctly identified the more economical breakfast. In relation to cost, homemakers generally knew economical sources of Vitamin C. From one to four wise buys of food containing Vitamin C were named by 63% and 59% of the homemakers in Yellowstone and Cascade Counties respectively. Some homemakers said that Vitamin C was the sunshine vitamin. They had assumed this from a television commercial for orange juice that says, "a breakfast without orange juice is like a day without sunshine." This misconception is not serious if people still consume good sources of Vitamin C but could be drastic if people rely on sunshine for Vitamin C.

Children are often involved in the activities of EFNEP with the homemaker and Aide. Some of the children do the majority of the cooking in instances where there is no mother or a mother who does not want to cook. The majority of the homemakers do like to cook, 77% in

Cascade County and 61% in Yellowstone County, and they make available to their children a variety of snacks. A variety of snacks (seven or more) both nutritious and empty calorie foods was available to 76% of the families in Yellowstone County and 59% of the families in Cascade County. The homemakers generally are very concerned about the welfare of their children. Greater than 50% of the children of the families surveyed participate in school lunch programs (Table 4). Only a very small percent did not participate in available school lunch. These families lived very close to the school, enabling the children to go home for lunch.

In comparing dietary recalls with knowledge of the basic four food groups (Table 5) there was quite a discrepancy between what is eaten and knowledge of what people should eat. When homemakers were asked what one should eat to keep healthy in terms of three meals, they named more milk and milk products and fruits and vegetables than they consumed. When asked in terms of the four food groups, fruits and vegetables were the same or lower than the first recall. Consumption and knowledge of meats were consistently high. Perhaps good nutrition should be taught in terms of three meals a day rather than according to the four food groups.

When the homemakers were surveyed, they were asked if they wanted more new ideas from EFNEP. In both counties, 58% of the homemakers indicated they wanted to learn new recipes, economical buys

and more about good nutrition. All but one of the homemakers in Cascade County said they had benefited from EFNEP. All Yellowstone County homemakers responded positively to the program. Of the reasons given, 3% of the homemakers in both counties said the program was good for others. Perhaps the homemakers who do not want new ideas and those who feel the program is good for others are not highly motivated to do better or they do not need further guidance from EFNEP. These situations should be carefully examined and it should be determined whether or not they may be graduated from the program.

All of the homemakers in Yellowstone County said they would continue doing what they had learned in EFNEP compared to 96% in Cascade County. However when they were asked how long they would continue these practices 75% of Cascade County homemakers said they would do it for always compared to 68% of the Yellowstone County homemakers. The investigator believes that the Yellowstone County homemakers are more dependent on the Aides in EFNEP than those in Cascade County. A larger percent of homemakers in Yellowstone County than those in Cascade County said they would continue practices only as long as the Aide continued to visit. Perhaps this indicates that the families are too dependent on the Aides in Yellowstone County. The individual contacts in Yellowstone County may have developed a closer relationship between Aide and homemaker that the homemaker does not want to end by graduation from EFNEP.

The investigator believes the trend indicated in knowledge, skills and motivation generated by the two methods studied here is related to several important factors:

1. The group method of instruction may not be as effective as an individual contact guidance.
2. Working with the homemakers for development together may be more effective than instructing or demonstrating.
3. The more needy families may progress faster than those who are more stable.
4. A larger percent of senior citizens are being reached in Cascade County than in Yellowstone County. Senior citizens may be less likely to change their ideas about nutrition and food habits than young homemakers with families.
5. Obtaining family referrals from many agencies may result in EFNEP families that are more eager to learn than those from limited referral sources.
6. The employment of Aides from the communities in which they work may bring better response to EFNEP than when Aides are not from the community they serve.
7. The interest of the para-professional Supervisor in the Aides may allow them to work with more ease and confidence than the Aides who are supervised by a professional.

8. The Aides from the community where they work may better understand the immediate nutrition needs of the families than those from outside the community.
9. The Aides who have only the basic nutrition knowledge may not have a tendency to talk about nutrition related subjects that the homemakers will not be able to grasp; or to discuss topics that are not necessary for providing economical nutritionally balanced meals.

Recommendations for EFNEP

Although the results of this study may not apply to all areas where EFNEP is located, the investigator has made recommendations in view of the comparison of two programs.

1. EFNEP should strive for the best possible relations with all community agencies for a greater inter-disciplinary approach to the problems of low income families.
2. The Extension Agents and Supervisors should work closely with the Aides for constant awareness of the needs EFNEP may fulfill.
3. Referrals to EFNEP should be carefully considered, giving priority to the hard core families.

4. Program families should be carefully evaluated for graduation or dismissal from EFNEP so the Aides' talents may be channeled to the most needy and most responsive families.
5. Aides should be continually evaluated so proper guidance can be given them in order that they perform in a most effective way.
6. Careful consideration should be given to Supervisors. It should not be ruled out that para-professionals can be excellent Supervisors.
7. Nutrition facts should be relayed to the Aides at a level they will use in working with the homemakers.
8. Aides should be hired not only on the basis of their qualifications, but also on the needs of the community.
9. More individual than group guidance should be stressed.
10. More work with young families rather than senior citizens should be stressed.
11. Delegation of responsibility to the Aides by the Supervisors and to the homemakers by the Aides needs to be increased.
12. The work of the Aides must be praised continuously.
13. Time should be allowed for the Aides to plan their activities.
14. The Extension Agent and Supervisor should keep organized files on all EFNEP activities in their county and exchange ideas between counties.

15. Development of resource material for the Aides' disposal needs to be expanded.
16. The interest of the Supervisor in the Aides should be more than that of a superior-subordinate relationship.
17. If county programs are to be compared by the use of monthly reports, a consistent report system needs to be established.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Low income families are susceptible to malnutrition from lack of economic resources and knowledge of nutrition. At the core of this problem is the lack of nutrition education. EFNEP has begun to solve some problems of malnutrition among low income families. The purpose of this study was to investigate two different methods used in EFNEP and compare them for effectiveness.

There is a high percentage of poor diets among low income families. Food must first of all be provided within their economic resources. The needs of the family and social setting must be understood before nutrition education can be effective. Para-professionals from low income communities are knowledgeable of the existing situations and are accepted by their neighbors in guidance situations. The use of para-professionals in EFNEP has seen considerable success but evaluation of program acceptance and use is lacking.

A questionnaire was developed to structure an interview with a sample of homemakers. It was designed to determine knowledge, skills and motivation of the homemakers. The sample included 127 homemakers from two EFNEP centers in Montana. The survey was conducted

in June and July 1971. Aides, Extension Agents, Supervisors and personnel of other health and community agencies were interviewed.

Item analysis and mean scores were used to interpret the data collected. Criteria were set up to score knowledge, skills and motivation for comparison of the two centers.

There are several differences between Cascade County and Yellowstone County in the methods employed in EFNEP. Cascade County has a limited family referral system compared to Yellowstone County. Yellowstone County EFNEP serves more racial minority families than Cascade County. They also employ Aides from minority groups. The para-professional Supervisor in Yellowstone County had a working relationship with the Aides compared to an instructing relationship of the professional Supervisor in Cascade County. The guidance methods employed by both Supervisors are carried on by their respective Aides in working with the families. More detailed instruction of nutrition facts is done in Cascade County than in Yellowstone County. More group guidance of low income families is done in Cascade County than in Yellowstone County.

It appears there is a definite trend of greater knowledge, skills and motivation generated in Yellowstone County than in Cascade County.

The families surveyed in Yellowstone County had less education, lower incomes and a shorter length of time in the program than Cascade County families. The homemakers showed a definite awareness and

interest in good nutrition for their families. Many homemakers indicated they will continue the practices learned in EFNEP forever. The families that may be more dependent on the Aides did not appear as willing to continue EFNEP practices without association of the Aides.

Conclusions

From data collected during a six-week period, the following can be concluded for this study:

1. The individual method of instruction may be more effective than group instruction.
2. Aides from the communities in which they work may be more effective than Aides from outside the community.
3. More needy families may progress faster than less needy families.
4. Para-professional Supervisors may be as effective or more effective than professional Supervisors.
5. Using all possible ways to obtain family referrals may reach more hard core families than using limited means.
6. Only the basics in nutrition and related topics are needed to guide the homemakers.

Recommendations

For further evaluation of the program studied here, the investigator has these recommendations for operation of another study. The study in each center should be done again with the same families after a six-month interval. The progress of each family during a six-month period should be studied and the progress recorded should be compared according to the centers. The investigator should observe a complete training session of new Aides in each county. The questionnaire should be developed so a statistical analysis could be done on the data obtained. More specific areas of the program should be studied, one at a time, such as methods used to train the Aides.

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APPENDICES

APPENDIX A

HOMEMAKER QUESTIONNAIRE

1. Has (Aide's name) helped you with nutrition for your family?

___ 1. No

___ 2. Yes

If so, how?

2. What is your opinion of the nutrition program?

___ 1. No opinion.

___ 2. Program has no use.

___ 3. Program is okay.

___ 4. Program is good for others.

___ 5. Program is good.

___ 6. Program is very good.

___ 7. Program is great

3. What drink do you serve your children most often?

___ 1. Coffee

___ 2. Fruit juice

___ 3. Soda pop

___ 4. Milk

___ 5. Koolaid

4. How many glasses a day do they drink of this one beverage?

___ 1.

___ 2.

___ 3.

___ 4.

___ 5.

5. What beverage do you, the homemaker, drink most often? _____

6. Is milk necessary for adults?

___ 1. No

___ 2. Yes

7. Why are fruits important in the diet?

___ 1. They have the fat we need.

___ 2. They have the vitamins we need.

___ 3. They have the proteins we need.

___ 4. They have the calcium we need.

8. How many servings of vegetables does your family get each day?

___ 0.

___ 1.

___ 2.

___ 3.

___ 4.

___ 5 or more.

9. Which of these foods are good protein foods?
- | | |
|---|---|
| ☐ 1. Ground beef | ☐ 4. Eggs |
| ☐ 2. Rice | ☐ 5. Fruits |
| ☐ 3. Whole wheat bread | ☐ 6. Peanut butter |
10. How many of the four basic food groups are represented in this casserole made of: noodles, ground meat, peas, onions and tomatoes?
- | | |
|-----------------------------|-----------------------------|
| ☐ 1. | ☐ 3. |
| ☐ 2. | ☐ 4. |
11. Since meat is expensive, how could you fix it so that you could satisfy your family's needs and appetite by using a small amount?
12. How many servings of bread, cereal, potatoes, rice, macaroni or other starchy foods do you, the homemaker, eat each day?
- | | |
|-------------------------------|--------------------------------------|
| ☐ 0. | ☐ 7-9. |
| ☐ 1-3. | ☐ 10 or more. |
| ☐ 4-6. | |
13. How often do you go grocery shopping?
- | | |
|---|--|
| ☐ 1. Three times a week. | ☐ 4. Twice a month. |
| ☐ 2. Twice a week. | ☐ 5. Once a month. |
| ☐ 3. Once a week. | |
14. Why should you make a grocery list when you go shopping?
- | |
|---|
| ☐ 1. To remember the things you want to buy. |
| ☐ 2. To save time. |
| ☐ 3. To get only those things you need. |
| ☐ 4. To save money. |
| ☐ 5. Other _____ |
15. Which breakfast would cost the least amount of money for one person?
- | | |
|--|--|
| ☐ 1. Orange juice | ☐ 2. Tang |
| ☐ Dry cereal | ☐ Oatmeal |
| ☐ Milk | ☐ Powdered milk |
16. What kinds of snacks do you give your children?
- | | |
|--------------------------------------|---|
| ☐ 1. Cookies | ☐ 4. Fresh fruit or vegetables |
| ☐ 2. Candy | ☐ 5. Jelly sandwich |
| ☐ 3. Crackers | ☐ 6. Pop of Koolaid |
| | ☐ 7. Other _____ |
17. Name the four basic food groups and tell how many servings we should have from each group each day.

18. Vitamin C is needed in your diet everyday. What is the most economical way you know of to give your family vitamin C?

19. What can the Master Mix or all purpose mix be used for?

20. Do you think you will keep doing the things you have learned with (Aide's name) help?

___ 1. No

___ 2. Yes

For how long? _____

Why?

APPENDIX B

PROGRAM ASSISTANT QUESTIONNAIRE

1. How long have you been an Extension Aide here in _____ County?
2. What made you decide to apply for this type of job?
3. Has this job helped you as a homemaker, as a person; has it helped your family? If so, how?
4. During your training sessions, which sessions did you feel were most valuable?
5. What approach do you feel is best to follow in meeting with a hard-to-reach homemaker? A receptive homemaker?
6. In a group meeting when there are homemakers at different levels of education and homemaking skills, what level do you aim your demonstration at?
7. What are the basic parts of any lesson or demonstration you give?
8. When other members of the family are present, do you include them in your visit with the homemaker? If so, how?
9. How do you explain the four basic food groups to the homemaker?
10. What are some ways you have helped the homemaker overcome loneliness?
11. How can you get the homemaker to trust and respect you?
12. Why are trust and respect important?
13. What are some ways you can change the food habits that are a part of a person's heritage?
14. How can you help the homemakers gain self-confidence?
15. If a homemaker asks you what a calorie is, how do you explain it to her?
16. What guidelines do you give the homemaker in menu planning?

17. How do you explain to homemakers the importance of proteins?
18. How do you explain the amino acids to the homemaker if she asks you what they are?
19. What vitamins do you explain to the homemaker as being important?
20. What are some good sources of each vitamin you have named, that you would tell the family about?
21. Tell me the guides one should follow in grocery shopping.
22. What is the difference between enrichment, fortification, homogenization and pasteurization?
23. Do you have any homemaker or family member on a special diet? If so, what kind of diet? How do you instruct that person on this diet?
24. What is the best way to describe a nutrient to a homemaker?
25. Name the major mineral nutrients and give good food sources of each mineral.
26. When a homemaker is unresponsive to your guidance after several visits, what are some approaches that might work?
27. What are some good economical sources of protein?
28. What should be considered when determining which food product would be the best buy?
29. If a homemaker is preoccupied with financial or parent-children problems to the point that she is not hearing anything you say, what do you do?
30. What are some ways that the importance of good health can be stressed to the homemaker in terms of the children?
31. What method have you found to be most successful in doing a 24 hour recall?
32. How can the need for energy be explained to the homemaker?
33. What are some good food sources of energy?

34. How do you explain a carbohydrate to a homemaker?
35. Is it wrong to buy any food substances that are special treats (such as cookies, candy or beer) when the budget does not allow enough money for both a good diet and the treat foods?
36. What practices do you follow as an Aide that you didn't follow before becoming an Aide?
37. If a homemaker wants to know if she should take vitamin pills or give them to her children, what do you say?
38. Cholesterol is talked about a lot today. If a homemaker asks you about it, what do you say?
39. How do you decide when to drop a family from the program that has been responsive? When one has been unresponsive?
40. What group meeting topics have you presented?
41. What groups have you talked to?
42. Have you done a television show? How many? What were your topics?
43. What types of visual aids do you use in your teaching?
44. What part of this job do you like the least?
45. What part of this job do you like the best?
46. What methods do you employ in evaluating the progress of your families?

APPENDIX C

EXTENSION AGENT AND EFNEP SUPERVISOR QUESTIONNAIRE

1. How long have you been working with EFNEP here in _____ County?
2. What made you decide to work with this type of program?
3. Has this job helped you as a homemaker, as a person, as an Extension employee; has it helped your family? If so, how?
4. During your training sessions, which session did you feel was most valuable? Why?
5. What approach do you believe is best to follow in meeting with a hard-to-reach homemaker? A receptive homemaker?
6. In a group meeting, when there are Aides at different levels of education and homemaking skills, what level do you aim your lessons at?
7. What are the basic parts of any lesson or demonstration you give?
8. In a home visit such as the Aides make, when there are other members of the family present, would you include them in your visit with the homemaker? If so, how?
9. How do you explain the four basic food groups to the homemaker and Aides?
10. What are some of the ways you have helped the Aides to overcome loneliness?
11. How can you get the Aides to trust and respect you?
12. Why are trust and respect important?
13. What are some of the ways you can change the food habits that are a part of a person's heritage?
14. How can you help the Aides gain self-confidence?
15. How do you explain a calorie to the Aides?
16. What guidelines do you give the Aides in menu planning?

17. How do you explain the importance of proteins to the Aides?
18. How do you explain the amino acids to the Aides?
19. What vitamins do you explain to the Aides as being important?
20. What are some good sources of each vitamin, that you tell the Aides about?
21. What is the difference between enrichment, fortification, homogenization and pasteurization?
22. If you would have any homemaker or family member on a special diet, how would you instruct that person?
23. Tell me the guides one should follow in grocery shopping?
24. What is the best way to describe a nutrient to an Aide?
25. Name the major mineral nutrients and give good food sources of each mineral.
26. When a homemaker is unresponsive to an Aide's guidance after several visits, what are some approaches that you might suggest to the Aide?
27. What are some good economical sources of protein?
28. What should be considered when determining which food product would be the best buy?
29. If a homemaker is preoccupied with financial or parent-children problems to the point that she is not hearing anything the Aide says, what do you suggest that she do?
30. What are some ways that the importance of good health can be stressed to the Aide in terms of the children?
31. What method have you found to be most successful in doing a 24 hour recall?
32. How can the need for energy be explained to the homemaker?
33. What are some good food sources of energy?

34. How do you explain a carbohydrate to the Aides?
35. Is it wrong to buy any food substances that are special treats (such as cookies, candy or beer) when the budget does not allow enough money for both a good diet and the treat foods?
36. What practices do you follow as EFNEP director that you didn't follow before becoming an EFNEP director?
37. If an Aide wants to know if she should take vitamin pills or give them to her children, what do you tell her?
38. Cholesterol is talked about a lot today. If an Aide asks you about it, what do you tell her?
39. What do you tell the Aide to do in deciding when to drop a family from the program that has been responsive? When one has been unresponsive?
40. What group meeting topics have you presented?
41. What groups have you talked to?
42. Have you been on television for EFNEP? How many times? What were your topics?
43. What types of visual aids do you use in your teaching?
44. What part of this job do you like the least?
45. What part of this job do you like the best?
46. What method do you employ in recruiting Aides?
47. Have you organized advisory committees or councils of poor people?
48. How have you broadened community awareness of need for food education of the poor?
49. What mass media techniques have you used in EFNEP?
50. How have you coordinated efforts with the food industry and other agencies in furtherance of EFNEP?
51. What method do you use in evaluating the progress of the Aides and the program?

APPENDIX D

ITEM ANALYSIS RESULTS IN PERCENTAGES OF HOMEMAKERS
 QUESTIONED IN CASCADE COUNTY AND
 YELLOWSTONE COUNTY SAMPLES

1. Has (Aide's name) helped you with nutrition for your family?
1(0)^a 1. No
97(100) 2. Yes
 If so, how?
2. What is your opinion of the nutrition program?
0(0) 1. No opinion 45(61) 5. Program is good.
0(0) 2. Program has no use. 27(18) 6. Program is very good.
14(5) 3. Program is okay. 13(16) 7. Program is great.
3(3) 4. Program is good for others.
3. What drink do you serve your children most often?
0(0) 1. Coffee 38(53) 4. Milk
10(13) 2. Fruit juice 25(26) 5. Koolaid
3(0) 3. Soda pop
4. How many glasses a day do they drink of this one beverage?
5(0) 1. 21(18) 4.
14(18) 2. 19(13) 5.
16(42) 3.
5. What beverage do you, the homemaker, drink most often? _____
6. Is milk necessary for adults?
6(3) 1. No
92(97) 2. Yes
7. Why are fruits important in the diet?
64(71) 1. They have the fat we need.
4(3) 2. They have the vitamins we need.
4(3) 3. They have the proteins we need.
0(3) 4. They have the calcium we need.
8. How many servings of vegetables does your family get each day?
8(3) 0. 12(10) 3.
26(31) 1. 4(3) 4.
51(50) 2. 0(3) 5 or more.

9. Which of these foods are good protein foods?
 _____ 1. Ground beef _____ 4. Eggs 21(21) 1,4,6
 _____ 2. Rice _____ 5. Fruits
 _____ 3. Whole wheat bread _____ 6. Peanut butter
10. How many of the four basic food groups are represented in this casserole made of: noodles, ground meat, peas, onions and tomatoes?
1(8) 1. 49(55) 3.
14(8) 2. 25(16) 4.
11. Since meat is expensive, how could you fix it so that you could satisfy your family's needs and appetite by using a small amount?
12. How many servings of bread, cereal, potatoes, rice, macaroni or other starchy foods to you, the homemaker, eat each day?
3(5) 0. 9(16) 7-9.
34(29) 1-3. 6(0) 10 or more.
48(50) 4-6.
13. How often do you go grocery shopping?
10(10) 1. Three times a week. 17(31) 4. Twice a month.
9(10) 2. Twice a week. 12(16) 5. Once a month.
49(31) 3. Once a week.
14. Why should you make a grocery list when you go shopping?
 _____ 1. To remember the things you want to buy.
 _____ 2. To save time.
45(50) 3. To get only those things you need.
 _____ 4. To save money.
 _____ 5. Other _____
15. Which breakfast would cost the least amount of money for one person?
14(8) 1. Orange juice 81(87) 2. Tang
 Dry cereal Oatmeal
 Milk Powdered milk
16. What kinds of snacks do you give your children?
 _____ 1. Cookies _____ 4. Fresh fruit or vegetables
 _____ 2. Candy _____ 5. Jelly sandwich
 _____ 3. Crackers _____ 6. Pop or Koolaid
 _____ 7. Other _____
17. Name the four basic food groups and tell how many servings we should have from each group each day.

18. Vitamin C is needed in your diet everyday. What is the most economical way you know of to give your family vitamin C? _____

19. What can the Master Mix or all purpose mix be used for?

20. Do you think you will keep doing the things you have learned with (Aide's name) help?

1(0) 1. No

96(100) 2. Yes

For how long? _____

Why?

a xx Cascade County
 (xx) Yellowstone County

APPENDIX E

FOOD CONSUMPTION AND KNOWLEDGE OF BASIC FOUR AS DETERMINED
IN FIRST INTERVIEW (a) AND IN RECENT INTERVIEW (b)

Food Group and Number of Servings	First Recall (a)	First Knowledge (a)	Name Basic 4 (b)	Food Consumed (b)
Milk (%)				
0	22(31)	18(6)	34(45)	
1	42(27)	28(43)	7(3)	
2-4	23(34)	40(41)	55(47)	
5	2(2)	1(2)	5(5)	
Fruits and Vegetables (%)				
0	10(9)	3(9)	19(26)	8(3)
1	13(13)	14(18)	3(3)	26(31)
2-3	40(49)	30(15)	52(54)	63(60)
4	14(20)	18(20)	25(16)	4(3)
5-7	11(2)	22(31)		0(3)
Breads and Cereals (%)				
0	4(0)	18(9)	32(45)	3(5)
1-3	48(65)	42(57)	28(36)	34(29)
4-6	34(25)	26(26)	25(18)	48(50)
7-9	2(2)	1(0)		9(16)
10 or more				6(0)
Meat (%)				
0	4(2)	4(6)	17(24)	
1	22(11)	28(27)	17(16)	
2	34(25)	24(25)	48(37)	
3 or more	18(56)	31(35)	18(24)	

xx — Cascade County
(xx) — Yellowstone County

- a A 24-hour dietary recall was taken when the homemaker first began in EFNEP as a program homemaker. A record of what the homemaker thinks one should eat to keep healthy was also taken at this time.
- b When the homemakers were interviewed in this study, they were asked to name the four food groups and the amount one should eat. Questions in the interview revealed the current amount consumed per day for two food groups.

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