

EVALUATION OF A CONVENIENCE FOOD MODULE IN A
HOME ECONOMICS COORDINATED VOCATIONAL-
ACADEMIC EDUCATION PROGRAM

by

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CHAPTER I

INTRODUCTION

The Vocational Education Act of 1963 and the Vocational Education Amendments of 1968 have been a legislative milestone. According to Hurt and Alexander (21), these acts have presented a challenge to home economics education to accept an even greater responsibility for the education of the youth of our nation. Don Davies, Associate Commissioner for Educational Personal Development of the United States Office of Education, has written the following:

Projections on the composition of the labor force in 1973 indicate that 25% of the population aged sixteen to twenty-five will be in the labor force--a 30% increase over a ten year period--and 40% of the increase in the labor force will be comprised of workers from minority groups. This means that vocational education must concentrate its efforts on youth and on individuals from minority groups with low income backgrounds (11:90).

A great task lies ahead for education in the area of career development. Particularly challenging is the opportunity for the Home Economics Coordinated Vocational-Academic Education Program to prepare students with special learning needs for gainful employment in jobs

requiring semi-skilled knowledge and training.

Research has indicated that food service work offers many employment opportunities for these youth. A report by the United States Department of Health, Education and Welfare Office states:

The food service industry, which in 1968 was the third largest industry in the United States in dollar volume, must find 2.5 million new employees in the next ten years. This means that each year from 1968 through 1978, 250,000 people must be recruited to insure that this vital service industry meets the needs of the American public. The responsible leadership of this industry is now making a nationwide effort to recruit young people and to encourage others to begin food service education (41:1).

Employment opportunities for youth in food service work were pointed out by Changing Times, The Kiplinger Magazine:

The field is wide open for young people who have a talent for getting along with people, who have the right educational background, and who are not afraid of long hours and hard work. The rewards, both personal and monetary, more than make up for the demands, say those already in the field (49:21).

The preceding statistics show that there are opportunities for CVAE students to be gainfully employed in food service work. Emphasis must be placed upon developing skills to a level of competence specified by prospective employers.

Synthesis of research (1, 18, 31, 37) indicates that

the new trend in food service is calling for an increased use of convenience foods. Thorner (37:56) points out that, "eighty percent of the food establishments in the United States use some form of convenience foods." For the CVAE students to be more employable, it is important they receive a basic knowledge of convenience foods used in the food service industry.

Research indicated (5, 7, 14, 21) that the HE-CVAE teacher faces a number of difficulties in planning educational programs for students with special learning needs. First, there is an extremely limited supply of materials available. Second, because time is limited the teacher may feel unable to develop a suitable program. Because of limited materials and limited time the teacher may eliminate the convenience food unit when teaching food service to students with special learning needs.

Research is needed to help the HE-CVAE teacher develop a convenience food unit that will enable students with special learning needs to be more employable. Work can provide a sense of pride, worth, belonging, and achievement for every individual. Many potential dropouts, minority group members and under achievers, can be trained to secure and keep jobs which give them satisfaction and feelings of dignity. Without the help of educators and researchers, it is doubtful if HE-CVAE teachers can meet

the challenge of preparing students with special learning needs for gainful employment in jobs requiring basic knowledge and training.

Statement of the Problem

The problem of the study was two-fold. The primary problem was to develop a module or unit of instructional materials in convenience foods which would be useful to the teacher for use with the HE-CVAE students. This problem involved analysis of the new trends in food service work and sources of subject matter pertaining to convenience foods.

The secondary problem of the study was to determine the usefulness of the instructional materials module developed in convenience foods for use with HE-CVAE students. This problem necessitated the development of an objective test to aid in evaluating the effectiveness of the module, and the development of an evaluative instrument, in the form of a questionnaire, to measure the effectiveness of the instructional materials as judged by teachers who were teaching in the HE-CVAE programs.

Purpose of the Study

The study revolved around the development of instructional materials for use in teaching convenience foods to students with special learning needs and the determination

of the usefulness of those materials. Common characteristics of such students provided the basic framework for developing the instructional material. To this end, the study was based on the following purposes:

1. To identify characteristics of the HE-CVAE students, trends in food service, and sources of subject matter concerning convenience food.

2. To develop instructional materials in convenience food based on the characteristics of students with special learning needs which were identified through the review of literature.

3. To develop an instrument to be used as a pretest and post-test for the purpose of measuring student achievement of the objectives presented in the instructional materials module in convenience foods.

4. To develop a questionnaire to be used as an evaluation instrument for the purpose of measuring the effectiveness of the instructional materials as judged by the teachers who were teaching in the HE-CVAE programs.

5. To determine if there was a significant difference between the mean differential scores on the pretest and the post-test for the ranked age groups of HE-CVAE students.

6. To determine if there was a significant relationship between the HE-CVAE teachers' evaluation of the in-

structional materials and selected variables pertaining to the teachers including the education level attained, the number of HE-CVAE workshops attended, and the years the teacher had taught.

7. To determine if there was a significant relationship between the HE-CVAE teachers' evaluation of the instructional materials and selected variables pertaining to the school and community including the type of programs (Home and Community or Food Service), the population of the areas, and the teacher's perception of the attitude of the community toward HE-CVAE.

Scope and Limitations of the Study

Factors limiting the study were:

1. The study was conducted in March and April, 1975, with twenty-nine classes of HE-CVAE students in Texas. The sample included 482 students. All conclusions were limited to the sample.

2. Techniques and media used in the module included discussion, lecture, flash cards, games, transparencies, bulletin boards, and laboratory cooking. As a wide variety of techniques was used, no attempt was made to evaluate the effectiveness of any one technique.

3. The regular teachers of the HE-CVAE classes administered the pretests and the post-tests and presented the material in the module. An assessment of the ability

of the teachers to motivate the students was beyond the scope of the study.

4. The study was limited to the development, testing, and evaluation of a module on convenience foods.

5. No attempt was made to control the classroom environment in which the materials were tested in respect to ventilation, temperature, time of day, and other school activities.

Hypotheses

The following null hypotheses were tested in the study:

1. There is no significant difference between the mean differential scores on the pretest and the post-test for the ranked age groups of HE-CVAE students.

2. There is no significant relationship between the HE-CVAE teachers' evaluation of the instructional materials and selected variables pertaining to the teachers including the education level attained, the number of HE-CVAE workshops attended, and the years the teacher had taught.

3. There is no significant relationship between the HE-CVAE teachers' evaluation of the instructional materials and selected variables pertaining to the school and community including the type of program (Home and Community or Food Service), the population of the area, and the teacher's perception of the attitude of the community

toward HE-CVAE.

Treatment of Data

Data collected in the investigation were treated statistically in the following manner:

1. Reliability of the cognitive evaluation instrument was determined through use of the Pearson product-moment correlation coefficient based on split halves and stepped up using Spearman Brown Prophecy Formula.

2. The significance of the differential scores for the pretests and the post-tests of the students was determined by the use of a single-classification analysis of variance and entering the table of F values. The F ratio with a .01 level of confidence was used.

3. Evaluation replies of the teachers were cross tabulated through the use of the chi-square statistical technique. The chi-square test was chosen because it is a test for the independence of crossed variables. It analyzed data regarding background variables to determine levels of significance. Differences were judged to be significant at the .05 level or beyond.

The data were organized on the IBM Fortran coding form sheet for use in key punching IBM cards for computer processing. Data were key punched on cards and processed on an IBM 360-50 computer at the Texas Tech University Computer Center.

Definition of Terms

The following terms are defined in accordance with the purpose of the study:

1. Home Economics Coordinated Vocational-Academic Education (HE-CVAE)--is a program for in-school youth with certain handicaps such as socioeconomic, academic or other learning needs which prevent their success in the traditional classroom; the program provides modified academic instruction in the subjects of English, science, mathematics, and social studies and provides the students with vocational education for gainful employment in jobs requiring semi-skilled knowledge and training; the dual program provides students with an academic curriculum at a level where they can succeed.

2. Students eligible for HE-CVAE--students, at least fourteen years of age, enrolled in grades seven through twelve who are one or two years behind their grade level academically because of a lack of educational and cultural advantages and/or low scholastic ability.

3. Food service employment opportunities--employment in jobs requiring semi-skilled knowledge and training.

4. Convenience food--any food items that have been partially prepared before they arrive at the commercial food facility.

5. Module or instructional materials--a unit of

instruction or materials based on one concept containing key ideas, behavioral objectives, learning and evaluation experiences.

6. Behavioral objectives--a statement which describes in observable and measurable terms the expected performance of students that should result from fulfilling designated learning experiences.

7. Learning experiences--activities planned for students at a specific developmental level which enable the students to achieve a behavioral objective.

8. Evaluation instrument--a test or other device designed to measure student's achievement of behavioral objectives.

9. Differential scores--the score representing the difference between an individual's pretest and post-test scores.

10. Questionnaire--a written series of questions for obtaining statistically useful data from an individual.

CHAPTER II

REVIEW OF LITERATURE

Literature was reviewed to identify the characteristics of the disadvantaged student, to discover employment opportunities in food service, to determine the responsibilities of food service employees, to define convenience foods and to determine the significance of convenience foods in the food service industry. Literature was also reviewed to determine teaching methods appropriate for the Home Economics Coordinated Vocational-Academic Education student.

Characteristics of Disadvantaged Students

The disadvantaged student is one who for a variety of reasons has been slow in achieving expected traditional objectives. In a study at Texas Woman's University, Tilma (38) identified general developmental characteristics of students in the Coordinated Vocational-Academic Education program.

1. Approximately 1/3 of the students tended to be discipline problems.
2. Forty-four percent of the boys were discipline problems; thirty-one percent of the girls tended to be discipline problems.

3. Slightly more than 1/3 of the students had failed at least one or more school years.

4. The students missed an average number of ten days during the fall semester, 1969.

5. One-fifth of the students (21% boys, 17% girls) had been suspended from school at least once.

6. The white students tended to make higher scores on the California Short Form Test of Mental Maturity than the non-white students.

Cross (8) conducted a study at Oklahoma State University in 1971 to determine the problems faced by OSU home economics education graduates as they began working with disadvantaged youths of secondary school age. Cross found that 94.4% of the subjects faced similar problems while working with disadvantaged youth. Some of the problems encountered involved understanding the cultures, values and motivation of the disadvantaged youth. Other problems identified by the study included reaching the disadvantaged youths' level of understanding, coping with rudeness to adults and stealing.

Synthesis of research (6, 28, 35, 38, 47) indicates that common attributes used singly, together, or in some combination to define the disadvantaged student include economic, social, and academic characteristics. The economic and social characteristics include low family income

or income primarily from welfare sources, ethnic minority group status or deteriorated housing. The academic characteristics of the disadvantaged include poor performance in school, reading retardation, limited linguistic ability, high probability of becoming a school dropout, low probability of attending college and low scores on intelligence quotient or achievement standardized tests.

The educationally retarded student should be included in the identification of the disadvantaged student. Barbe (4) and Riessman (27) agree that studies involving the identification and diagnosis of needs of the educationally retarded and disadvantaged reveal not just similarity of needs but, in many instances, sameness of needs. Barbe states that the educationally retarded and disadvantaged consist of three groups:

1. The educationally retarded who are performing below grade level commensurate with age level due to inherent limitation of mental ability
2. The educationally retarded who are performing below grade level commensurate with level in situations in which the standards are based on the performance of groups for whom different educational and sociocultural opportunities have been available
3. The educationally retarded who are performing below grade level commensurate with age level due to lack of interest and motivation (4:99).

Individual students do not fall neatly into one or an-

other of these groups but are more likely to qualify, in varying degrees, for membership in two or more of them. Riessman (27) explains this fact by saying that any statement of characteristics, even though descriptive of the group, is not a valid description of each member of the group. Barbe (4) emphasizes that the common factor in these groupings is academic retardation.

Schreiber (29) points out a similarity in the definition of the educationally retarded student and the disadvantaged student. He says they are students who have a fifty percent chance to graduate from high school. Also more than thirty percent of these students will end up on relief or public welfare. He states further that over a five-or-six year period their intelligence quotient scores will steadily decline.

According to Barbe (4), the major characteristic of the educationally retarded and the disadvantaged students are their lack of success in the academic situation. In many instances, the terms "school dropout," "educationally retarded" and "disadvantaged student" are synonymous. Deutsch (12) agrees with Barbe in saying that the most important characteristics of the disadvantaged student are negative attitudes toward school, inability to achieve a moderate or small amount of success in academic work, irregular attendance and lack of motivation or interest in

learning. Silberman (30) points out a variety of characteristics of disadvantaged students. He states that the disadvantaged student may lack the sense of auditory discrimination that is essential to reading; tends to have a poor attention span and to have difficulty following the teacher's direction; is poorly motivated and has had little experience with being praised for success or criticized for failure. Silberman also states that the disadvantaged student has had few experiences away from home.

Research (43, 45, 24) indicates that the disadvantaged is a group characterized by academic retardation, a progressively deteriorating achievement pattern and a high incidence of early school withdrawal. These are the students, according to Havinghurst (20), that need special attention in the schools and special help to assist them to overcome the disadvantage conferred on them by their families.

Methods for Teaching Disadvantaged Students

Deutsch (12) recognized a relationship between the conditions of social, cultural, and economic deprivation and deficit learning. Students from these deprived environmental conditions have the highest rate of school retardation, particularly in linguistic skills and reading ability. Due to failure and school dropout many of these students are destined to a lifetime of the least skilled

and least desirable jobs with little or no opportunity for upward social mobility. Barbe (4) reports that talent has been wasted and that only in recent years has it been widely accepted that much of this waste is found in the group known as the educationally retarded and disadvantaged.

To end this waste of human potential, Taba and Elkins (35) suggest that teachers must find methods for developing the abilities of the disadvantaged. They state that basically there is no difference in the way in which disadvantaged students and other students learn. The same general principles of learning which apply to other groups also apply to the disadvantaged. The biggest difference lies in the meaning things hold for these learners and the degree to which certain things are operative. Ausubel makes the observation that:

Because concrete thought operations are necessarily more time-consuming than their abstract-verbal counterparts, and also because of his distractibility, unfamiliarity with formal languages, impaired self confidence, and unresponsiveness to time pressure, the culturally deprived child works more slowly than the middle-class child in the academic setting (3:25).

Taba and Elkins (35) present evidence that all learners proceed from concrete to the abstract, but they point out there is a difference in what is abstract and what is concrete to students who have gaps in their cognitive and verbal development and whose life experience may be limited

in certain areas. Witty (46) stresses the importance of educating the disadvantaged students in terms of their own experiences, interests, and needs and not in the shadow of average and superior students. According to Daniel (10), schools must meet the challenge by implementing specific programs which take into account the characteristics and problems of their pupils.

Findings of research (14, 23, 48, 45) emphasize the need for relevance in teaching the disadvantaged student. Webster (43) recommends a method of instruction which focuses attention and concern upon the learner and his experiences and problems rather than the content, skills or attitudes that are to be learned or developed. Webster calls this the "instructional sequence." The first step of the process, called sensitization, involves obtaining the attention and interest of the students through recognition of their past experiences. Step two is called integration, and the teacher's role is to intergrate the key factors identified during step one with factors inherent in the subject matter. The third step, called extension and reinforcement, serves to reinforce what students have learned and to stimulate students to utilize information which they would not have considered earlier.

Fantini and Weinstein (14) explain that the true test of relevance is the congruity of the learner's experience

to the curriculum. The closer the relationship the more relevant the curriculum.

Taba and Elkins (35) stress the need for using a sequence of varied experiences when teaching the disadvantaged. They explain that many overt activities are needed because of the short attention spans, poor work habits and limited experiences of the disadvantaged students. They suggest the use of such motivating devices as: stories, role-playing, play-making, dramatization, observation and interviews. Fleck (15) encourages the use of flipcharts, flashcards, slides, cartoons, photographs, chalk-talks, puppets and pantomime. She also encourages the use of case studies and games to simulate an experience to solve problems and to gain some appreciation of the complexities of living.

According to Dale (9), emphasis in education must be on the development of creative skills in communication, think-abilities and lifelong tasks. He suggests the careful selection and use of such aids as the closed-circuit television, films, filmstrips, slides, overhead projector, opaque projection and the tape recorder to provide new and stimulating learning experiences for the disadvantaged student.

Fainter (13), in a study at Texas Tech University, concluded that audio visual instructional materials were

effective in promoting learning of HE-CVAE students studying apparel repair. Media used in Fainter's study included overhead transparencies, a cassette tape recording, and actual objects necessary for the repair of clothing. Her findings indicated statistically significant gains in knowledge of apparel repair as revealed by the pretest and the post-test scores of HE-CVAE students in the experimental group. The control group, which took the same pretest and post-test but received no instruction using the audio visual media, showed no statistically significant gains in the test scores. Fleck (15) agrees that the use of many visual teaching aids, games and other interesting devices is imperative when teaching the disadvantaged.

Reissman (27) believes that the best plan for teaching the culturally deprived incorporates the principle of learning by doing. Active participation should be coupled with a well defined structure, which is descriptive and has strong requirements for achievement.

Opportunities for Employment in Food Service

The food service industry is much more than just the different kinds of restaurants in the towns and cities of the country. A report by the United States Department of Health, Education, and Welfare (41) states that the food service industry includes all the hospitals, colleges, drug stores, taverns, cocktail lounges, employee cafeterias,

catering establishments, military feed operations, vending operations, school and institutions where people eat when they are not at home. The report also points out that in 1968 the food service industry was the third largest industry in the United States in dollar volume and employed more than 3.3 million people.

The report further indicated that each year from 1968 through 1978, 250,000 people will need to be recruited to insure that the food service industry can meet the needs of the American public. Of these, 75,000 will be required annually for newly created jobs; the remaining 175,000 new workers will be required annually as replacement for workers in already established jobs. The report states that most of the openings will occur as workers retire or leave their jobs for other reasons.

The report also asserted that retirements and deaths alone will create an estimated 45,000 openings each year. Also revealed was the fact that turnover is particularly high in the many eating places which employ waitresses, because many women leave their jobs to take care of family responsibilities. In addition to the vacancies that occur because of turnover, thousands of jobs will be created by employment growth, as the number of eating places increases to meet the needs of the country's growing population. Also contributing to an increased need for restaurant ser-

vices are such factors as rising income levels, more travel for both business and pleasure, and the expected increase in the number of housewives employed outside the home.

Greenway (17) also stressed the employment opportunities in the food service industry. He states that forty percent of the food service industry work force is made up of waiters and waitresses; thirty-five percent are cooks of various categories and the balance are miscellaneous workers which include butchers, stewards, captains, host, hostesses, busboys, cafeteria counter attendants, checker-cashiers, dish washers, dish machine operators, kitchen helpers, pantrymen, storeroom workers, kitchen porters and cleaners.

Research indicates (31, 37) that the responsible leadership of the food service industry is making a nationwide effort to recruit young people and to encourage others to begin food service education. Armstrong (1) points out that cooks, front office people (cashiers, checkers), waiters, waitresses, and kitchen personnel need upgraded training. An effective job of upgrading the training of food service workers entails identifying the real training needs, setting up adequate standards in training and jobs, encouraging workers to want to improve, identifying the educables and motivating people to want to work and stay in the industry.

A study of restaurant operations by the United States Department of Labor (42) found that although the food service industry includes many workers who do not have extensive training, more and more employers prefer that beginners have at least two or three years of high school. The report further states that home economics courses and special courses for waiters and waitresses which are offered by some public and private schools provide good preparation.

Stamps (33) conducted a study at the University of Southern Mississippi in 1968 to determine if educational programs in food service were needed. Stamps found that in the restaurants surveyed, a majority of the employers expressed interest in cooperating with work-experience educational programs in food service. The study also found that most of the employers surveyed indicated interest in employing trainees of an educational food service program. Stamps expressed the opinion that home economics can contribute to an educational program in food service, not only in the development of skills needed for employment, but also in the area of personal development.

Responsibilities for Food Service Employees

According to Levine (22), there are a wide variety of occupations and skill levels in the food service industry. He states that employers must be realistic in their hiring

specifications and must think in terms of performance requirements. He also states that some jobs require little skill; therefore, extensive training is not a prerequisite. However, literacy skills, a basic education, and a basic knowledge of food service work are needed.

A report by the United States Department of Health, Education, and Welfare (41) states the work force depends largely on the type of menu being served and the hours of operation. The report also states there are three areas in every food operation that offer interesting career opportunities: production personnel which are responsible for the production of all food items; sales personnel which are responsible for the sales and service of all food items; and sanitation personnel which are responsible for the sanitary maintenance of all utensils and equipment used in the production and service of food. The report also stresses that the success of any food service operation is determined not by the skill of any one individual in one department, but rather on the combined skill of all.

The food service workers and their responsibilities have been described by researchers (41, 31, 21) as:

- cooks or chefs who prepare food
- counter attendants who serve food to customers in cafeterias
- bartenders who mix and serve alcoholic drinks to customers

- busboys and busgirls who clear tables, carry soiled dishes back to the kitchen, and sometimes set tables
- kitchen workers who wash dishes and prepare vegetables
- pantrymen and pantrywomen who prepare salads and certain other dishes for servings
- janitors and porters who dispose of trash and garbage, sweep and mop floors, and do other cleaning jobs
- host or hostesses who greet and seat guests and supervise sales personnel
- waiters or waitresses who take customer's orders, serve food and beverage and make out customer's checks
- and cashiers who are responsible for taking and recording all cash or approving charge-account checks

Some of these workers operate mechanical equipment such as powerdriven dish washers, floor polishers, vegetable slicers and peelers and garbage disposal equipment.

A study by the United States Department of Labor (42) states that in many small eating places, waiters and waitresses clear and set up tables. Sometimes, they prepare certain kinds of dishes and help in the kitchen when they are not busy with customers.

The function of any food service operation, as pointed out in a report by the United States Department of Health, Education and Welfare (41), is to provide food, service and comfort to persons away from home. The good will of the customer is based on his confidence in the quality of the

food and his appreciation of the excellence of the food and his appreciation of the excellence of the service. To gain and retain the good will of the customer, it is necessary to establish a favorable image, which is created in part by the physical aspects of the operation and in part by its customer-employee relationships. Every person on the food service staff who performs part of the selling process or renders a direct service shares a responsibility for sales relationships and represents the business to the customer. The report concludes that the satisfaction of the customer depends upon the way in which members of the food service staff assume their responsibilities and perform their duties.

Smith and Crusius (31) characterize other responsibilities of food service workers as follows: neatness in personal appearance, desire to follow safety procedures, pleasant manner, even disposition, ability to cope with the rush of business at peak hours, ability to follow directions and a willingness to co-operate with other members of the food service staff.

The preceding statements show that the food service worker is expected to assume certain responsibilities at each level of employment in the food service industry. According to Levine (22), literacy skills, a basic education, and a basic knowledge of food service will enable the

food service worker to better meet these responsibilities.

Convenience Foods

Thorner declares that it is difficult to give an exact definition for convenience foods. He states the following definition:

Basically a pre-prepared food is one that can be served and consumed with little or no preliminary preparation other than heating or cooling operations that increase its palatability and refreshment threshold (37:219).

Smith and Crusius (31) describe convenience foods as foods to which some or all of the labor of preparation or processing has been added before coming to the user. Medved defines convenience foods as:

Foods which have been prepared so that part of the assembling, measuring and mixing has been done in preparation for cooking, and in which part or all of the cooking may have been done (25:10).

In a study by Tinklin, Fogg and Wakefield (39), convenience foods were described as foods which have services added to the basic ingredients to reduce the amount of preparation required. According to Thorner, convenience foods include a large variety of products:

These are pre-cut or pre-portioned uncooked foods. They may also be basic combinations of prepared, canned or dehydrated products that require additional preparation or mixing with other components. Examples of convenience foods are portion-cut fish, meat and poultry; frozen blanched

vegetables; cleaned and packaged fresh vegetables; cake mixes; soup, gravy, and sauce bases. Additional convenience foods are chopped, fresh and canned celery for salads; shredded cabbage for cole slaw; chopped, fresh parsley; Caesar salad, tossed salads; peeled, whole or sliced, fresh onion; fresh hard boiled eggs for salads or garnishes; and diced, rissole and French cut fresh or frozen potatoes; cold-pack fresh fruit, such as orange, grapefruit and pineapple, segments; cantaloupe, honeydew and watermelon balls used for fruit salads and garnishes or sold as premixed fruit cocktail. Also included are uncooked breaded products like shrimp, fish sticks and onion rings (37:220).

Rainey (26) comes to the conclusion that a convenience food can mean many things. She gives as examples: convenience in size, in premeasured ingredients, in eliminating mess, in eliminating time consuming steps in preparing food, having shortcuts available for emergencies and in the year-round availability of out-of-season products.

Significance of Convenience Foods in Industry

In speaking of new trends in the food service industry Haines states:

Convenience foods have been increasingly accepted by the food service industry in the past few years. In fact, they are starting to cause so much comment in the industry that it is difficult for a food service operator to completely turn his back on this modern emphasis on convenience foods (18:46).

Investigation indicates (18, 31, 44) that the new trend in food service is calling for an increased use of

convenience foods. Thorner points out that, "eighty percent of the food establishments in the United States use some form of convenience foods" (37:5). Thorner further reports that convenience food forms are gaining general acceptance throughout the entire food service industry. All segments of the food service industry are moving into convenience foods, including posh restaurants and hotels. Many operators who are engaged in running prestige units are tailoring convenience foods to the image of the establishment. He emphasizes that regional, foreign, and ethnic foods have developed into a major segment of the vast convenience food industry. Food service operations have found that foods associated with special nationalities can be easily merchandised, that they generate a high profit, and since they are pre-prepared, they do not require the services of expensive chefs.

Smith and Crusius (31) point out that the need for greater output of food in all types of institutions has made it necessary to simplify all steps of the operation. They state that engineers, scientists, technicians, and industrialists are meeting this need by the production and marketing of various types of pre-packaged, pre-portioned, processed, pre-fabricated foods--all of which are convenience foods. They emphasize that the use of convenience foods tends to simplify many management procedures

and can give better cost and waste control.

Studies consistently imply needs for potential employees to be trained in the current trends of the food service industry. Strong (34) stressed this point when he stated that training for the food service industry should include curriculum to develop marketable skills, abilities, understandings, and work habits to enable the trainee to get and hold a job in a particular food service occupation. He also stresses the fact that course content should be up-dated by periodic analyses to keep up with new trends in the food service industry.

A report by the United States Department of Health, Education and Welfare (41) emphasizes that prevocational training is an asset in most food service operations. The report indicates that food service operators consider training which gives the staff a background knowledge of food and an understanding of new trends and suitable methods of service invaluable because it enables them to serve customers more intelligently and more efficiently.

Summary

Literature in the areas of the disadvantaged students and trends in the food service industry was reviewed to provide a basis for developing a module of instructional materials and an evaluation instrument used in this study for determining the effectiveness of HE-CVAE instructional

materials. Research has indicated that the disadvantaged have a number of common characteristics which limit their academic achievement and their future employment opportunities such as reading retardation, limited linguistic ability, short attention spans, high probability of becoming a school dropout, low probability of attending college, low scores on intelligence quotient or achievement tests.

The characteristics and needs of disadvantaged students should aid in planning instructional materials for these students. Successful teaching methods include those which take into consideration deficiencies in linguistic skills and reading abilities of such students, particularly teaching methods which are visual and which physically involve the learner. The numerous opportunities for employment in the food service industry should be considered when planning instructional materials for HE-CVAE students. Employers prefer that beginning employees have at least two or three years of high school education. The employers also expressed an interest in employing trainees of an educational food service program. These findings provided the foundation on which the methods and procedures reported in the following chapter were developed.

CHAPTER III

PROCEDURES FOR THE STUDY

The purpose of the study was to develop, distribute, and evaluate instructional materials for teaching convenience food to students in Home Economics Coordinated Vocational-Academic Education programs. Procedures of the study are discussed in the following sections.

Development of Objectives for the Study

Based on the review of literature, the researcher developed a conceptual framework and behavioral objectives for a unit of study on convenience food for a gainful employment program. Behavioral objectives were developed in accordance with the principles stated in Behavioral Objectives in Curriculum Development by Tyler (40) and The Development of Training Objectives by Smith (32). Based upon suggestions from Tyler and Smith, the following guidelines were used as a basis for writing the objectives: (1) an instructional objective is a statement which describes one educational intent, (2) an objective should state clearly the behavior expected of the learner, (3) each objective should be a separate statement, and (4) the learner should have a copy of the objectives. Objectives from the cogni-

tive, psychomotor, and affective domains were employed in the learning module.

Development of Module

The module of instructional materials on convenience food was designed based on information gained through the review of literature. The researcher followed the format of the materials produced for HE-CVAE students by the Home Economics Instructional Materials Center at Texas Tech University in developing the module. A variety of media and techniques were planned in the learning experiences to make the instruction as varied and action oriented as possible, and to achieve the established behavioral objectives. Media and techniques used included flip charts, matching exercises, flash cards, transparencies, visuals, games and laboratory cooking. Vocabulary words which might be unfamiliar to students were listed at the beginning of the module. Generalizations, behavioral objectives, and learning and evaluation experiences were included in the module. The module is located in Appendix A.

The module was planned for implementation by teachers for one and a half weeks. However, variance in length of time needed to complete the module was considered due to individual students' aptitudes, interests, and backgrounds.

Prior to testing, the module was submitted to a panel of three professors in the Department of Home Economics

Education and three faculty members in the Home Economics Instructional Materials Center at Texas Tech University for critical review. The panel was asked to make suggestions for improving the content and the wording of the module. The panel members' criticisms were implemented in refining the module.

Selection and Description of Sample

The sample was selected from HE-CVAE programs in Texas identified from the 1974-1975 Directory of Vocational Home-making Teachers (36). A random sample of 100 HE-CVAE teachers were sent a letter asking for their assistance in evaluating instructional materials for teaching convenience foods to HE-CVAE students. A prepaid postcard was included for their reply. Samples of the letter and the card are located in Appendix B.

Seventy-four teachers returned the reply cards. Forty-two teachers indicated an interest in the evaluation of the instructional materials, but could not participate in the study due to other commitments such as clothing units which were in progress, schedules which were already made out, limited facilities and low budgets. Thirty-three teachers expressed a willingness to participate in the evaluation of the HE-CVAE instructional materials. Due to failure to send back all of the evaluation forms and tests, the final sample was comprised of twenty-nine HE-CVAE classes and

twenty-nine teachers. The total number of students participating in the study was 482.

The thirty-three teachers participating in the study were sent copies of the instructional materials, pretests, post-tests, and evaluations forms for both teacher and student. All of these materials were developed by the researcher. Two postage paid envelopes were included with the materials for the convenience of the teachers in returning the data. The first envelope was to be returned with pretests. The second envelope was to be returned with post-tests and the evaluation forms. The teachers were asked to teach the convenience food module to their respective classes sometime during the months of March and April, 1975. The teacher of each class was asked to make suggestions for improving the instructional materials. Teacher suggestions which were collected on the teacher evaluation form are found in Appendix C. Student comments which were collected on the student evaluation form are located in Appendix D. The directions to the teacher are found in Appendix E.

Development of Evaluative Instrument

An objective test was developed to measure the students' achievement of the behavioral objectives and thus the effectiveness of the module of instructional materials. The test was administered as a pretest and as a post-test.

According to Arny (2), the validity of a test is very closely related to goals or behavioral objectives, and a valid test measures the degree to which these goals or objectives have been achieved. With this in mind, the test was developed after the formation of a grid stating the behavioral objectives, the desired level of learning for each objective, and the approximate percentage of instruction time spent on each objective. The test items were then developed to measure the objectives at the stated levels and with the same approximate percentage of emphasis as the instructional materials. This procedure insured content validity.

Picture identification items were included in the evaluation instrument to meet the needs and abilities of HE-CVAE students. Hall and Paolucci indicate the importance of the picture question when discussing tests for the slow or problem learner:

The use of pictures can be particularly effective in test items that require students to apply their learnings. Real photographs, diagrams, or small sketches help to simulate a natural situation better than words alone can do. Good pictorial items may convey their intent better than verbal items. They may reduce the number of words needed and, thereby, require less reading time. One of their major contributions is the interest they add to a testing situation (19:370).

The researcher established face validity of the test by submitting it to four professors in the Department of

Home Economics Education and three faculty members at the Home Economics Instructional Materials Center, Texas Tech University, for their expert opinions. Suggested changes were incorporated in the test. See Appendix F for a sample of the evaluation instrument used in the study.

Reliability of the evaluation instrument was established by applying the Pearson product moment correlation coefficient based on split halves to the pretest scores of twenty-four students in a HE-CVAE program in Hart, Texas. The correlation was stepped up using Spearman Brown Prophecy formula. A reliability coefficient of .86 indicated that the instrument was sufficiently reliable for the purpose of the study. The correlation coefficient of .86 was significant at the .001 level.

Development of Questionnaire for Teacher's Evaluation of Instructional Materials

An instrument was developed to measure the teacher's evaluation of the HE-CVAE instructional materials. The instrument was divided into areas of personal data, school and community information, and evaluation of the HE-CVAE instructional materials. See Appendix G for a copy of the questionnaire.

The section pertaining to personal data was designed to obtain information about the respondents' educational level, HE-CVAE workshops attended, work experience in food

service, and the number of years they had taught HE-CVAE classes. The section of the instrument concerned with school and community data was designed to obtain information about the population area, community attitude toward HE-CVAE, type of HE-CVAE program, and the number of HE-CVAE students taught in each grade level. The variables in the areas of personal data, school and community information were selected because the investigator thought it would be interesting to see if there was a relationship between these variables and the teachers' overall evaluation of the instructional materials. The section of the questionnaire pertaining to evaluation of the HE-CVAE instructional materials was designed to obtain information concerning the usefulness of the instructional materials and suggestions for improving them, and to determine the learning and evaluation experiences the teachers used to help her students reach the stated objectives.

The questionnaire was submitted to a panel of judges consisting of three professors in the Department of Home Economics Education at Texas Tech University and three faculty members at the Home Economics Instructional Materials Center, Texas Tech University. Each panel member was asked to criticize the questionnaire in terms of clarity, wording, addition of items needed, and deletion of unnecessary information. Suggestions from the judges

were incorporated to increase the content validity of the questionnaire.

Collection of the Data

The study utilized the one group pretest-post-test design reported by Borg and Gall (6). The objective test was first administered as a pretest to the group of 482 subjects during the month of March, 1975. It was emphasized that the pretest scores would in no way affect the students' grades. After the students completed the instruction from the convenience food module, the post-test was given. A minimum time of fourteen days elapsed between the pretests and post-test for all subjects.

The investigator scored the tests. Raw scores were obtained by assigning a value of one point for each correct response on the objective test. The total number correct was tabulated and recorded. The preceding procedures were later applied to the post-tests. Each student's pretest and post-test scores were then computed.

The study also utilized an evaluation instrument in the form of a questionnaire to obtain data from twenty-nine HE-CVAE teachers. The questionnaire was designed to collect personal, school and community data, and to evaluate the HE-CVAE instructional materials. The teachers received the evaluation instrument in March, 1975. The evaluation instrument was returned to the investigator after the in-

struction of the convenience food module was completed. The data were tabulated and recorded for computer processing.

Treatment of the Data

Data collected in the study were treated as follows:

1. Single-classification analysis of variance was used to determine the significance of the means of the students' scores using the pretest and post-test differential scores. The scores were ranked according to age groups. The test yielded a statistical F which was then interpreted for significance by entering a probability table for the value of F at the .01 level.

2. The chi-square statistical technique was used to cross-tabulate the replies of the teachers. The replies pertained to selected variables which included the education level attained by the teacher, the number of HE-CVAE workshops the teacher had attended, the years the teacher had taught, the type of HE-CVAE program (Home and Community or Food Service), the population of the area, the teacher's perception of the attitude of the community toward HE-CVAE, and the teachers' overall evaluation of the instructional materials. The chi-square test was used to analyze data and to determine levels of significance. Differences were judged to be significant at the .05 level.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

The data obtained for the study to determine the usefulness of the HE-CVAE instructional materials were collected from Home Economics Coordinated Vocational-Academic Education teachers who responded to a questionnaire seeking information pertaining to an evaluation of the instructional materials. Individual responses made by the teachers to the questionnaire were analyzed to obtain a frequency distribution showing the percentage of teachers responding to the possible choices for each item. The questionnaire was distributed to a total of thirty-three HE-CVAE teachers. Some of the teachers failed to return the questionnaire. The missing respondents were not included in the evaluation; therefore, the data producing sample was twenty-nine.

Descriptive Data

The first section of the teachers' evaluation instrument was to determine the learning and evaluation experiences the teachers used to help the students reach the stated objectives. The second part was designed to determine the usefulness of the instructional materials. The number and percentages of responses for the variables

within both sections of the questionnaire are summarized in the following tables. Table 1 summarizes the learning and evaluation experiences the teachers used, or did not use, in helping the students reach the stated objectives.

Responses on the questionnaire concerning the learning experiences teachers used in helping the student reach the stated objectives indicated that the learning experiences involving the use of illustrated lectures and demonstrations were most often used. When all the learning experiences requiring an illustrated lecture were combined it was found that this method was used by 81.6% of the sample; 78.4% of them signified the use of some form of demonstration in the learning experiences.

The least used learning experiences were the field trips and the ethnic convenience food oriented learning experiences. The learning experiences requiring a field trip were used by 42.4% of the sample; 40.7% indicated that the ethnic convenience food learning experiences were used with their students. The responses indicated that each remaining learning experience was used by at least 20.7% or more of the sample.

Table 2 is concerned with the teachers' evaluation of the instructional materials for HE-CVAE students. The responses on the questionnaire concerning the evaluation of the instructional materials indicated that in the sample of

TABLE 1
SUMMARY OF LEARNING AND EVALUATION EXPERIENCES
USED, OR NOT USED, BY TEACHERS

| Experiences (in order presented in module) | Number of Teachers Using Experience | Percent Used | Number of Teachers Not Using Experience | Percent Not Used |
|--|-------------------------------------|--------------|---|------------------|
| Illustrated lecture | 28 | 96.6 | 1 | 3.4 |
| Study flash-cards | 15 | 51.7 | 14 | 48.3 |
| Make bulletin board | 22 | 75.9 | 7 | 24.1 |
| Picture cards | 14 | 48.3 | 15 | 51.7 |
| Field trip/restaurant | 12 | 41.4 | 17 | 58.6 |
| Illustrated lecture | 25 | 86.2 | 4 | 13.8 |
| Write down correct term | 18 | 62.1 | 11 | 37.9 |
| Chart of uses | 16 | 55.2 | 13 | 44.8 |
| Box/names of convenience food | 10 | 34.5 | 19 | 65.5 |
| Demonstration | 20 | 69.0 | 9 | 31.0 |
| Assignment cards | 16 | 55.2 | 13 | 44.8 |
| Display/convenience foods | 21 | 72.4 | 8 | 27.6 |
| Demonstration/preparation | 24 | 82.8 | 5 | 17.2 |
| Demonstration/microwave oven | 19 | 65.5 | 10 | 34.5 |
| Match up cards | 19 | 65.5 | 10 | 34.5 |
| State processed food forms | 13 | 44.8 | 16 | 55.2 |
| Field trip/supermarket | 18 | 62.1 | 11 | 37.9 |
| Make a poster | 23 | 79.3 | 6 | 20.7 |
| Demonstration/basic mix | 28 | 96.6 | 1 | 3.4 |
| Assignment card | 25 | 86.2 | 4 | 13.8 |
| Illustrated lecture | 18 | 62.1 | 11 | 37.9 |
| Field trip/supermarket | 13 | 44.8 | 16 | 55.2 |
| Field trip/ethnic food | 6 | 20.7 | 23 | 79.3 |

TABLE 1--Continued

| Experiences (in order presented in module) | Number of Teachers Using Experience | Percent Used | Number of Teachers Not Using Experience | Percent Not Used |
|--|-------------------------------------|--------------|---|------------------|
| Examples/convenience food | 16 | 55.2 | 13 | 34.5 |
| Teams prepare ethnic food | 6 | 20.7 | 23 | 79.3 |
| Groups of four Assigned tasks/chalkboard | 19 | 65.5 | 10 | 34.5 |
| Assignment card/food | 13 | 44.8 | 16 | 55.2 |
| Prepare and serve meal | 22 | 75.9 | 7 | 24.1 |
| Convenience foods lab | 18 | 62.1 | 11 | 37.9 |
| Follow directions/lab | 19 | 65.5 | 10 | 34.5 |
| Identify convenience food/lab | 25 | 86.2 | 4 | 13.8 |
| | 20 | 69.0 | 9 | 31.0 |

twenty-nine subjects, 100% agreed that the learning experiences were stated clearly enough to be easily used. Of the sample, 100% also indicated that they did not have difficulty reading and understanding the learning experiences stated in student terms. A majority of the sample (79.3%) stated they were able to find the resources needed to carry out the suggested learning experiences. Less than half of the sample (44.8%) indicated a need for additional teaching aids.

The teachers' overall evaluation of the HE-CVAE instructional materials is summarized in Table 3. In the

TABLE 2

TEACHERS' EVALUATION OF THE INSTRUCTIONAL MATERIALS FOR
HOME ECONOMICS COORDINATED VOCATIONAL-
ACADEMIC EDUCATION STUDENTS

| Variables | Number of Teachers Answering Yes | Percent Yes | Number of Teachers Answering No | Percent No |
|---|---|----------------|--|---------------|
| Are the learning experiences stated clearly enough for you to use easily? | 29 | 100. | 0 | 0 |
| Is the time required in preparation to use the learning experience reasonable? | 26 | 89.7 | 3 | 10.3 |
| Did you skip some of the learning experiences because they require too much preparation? | 16 | 55.2 | 13 | 44.8 |
| Have you been able to find the resources needed to carry out most of the suggested learning experiences? | 23 | 79.3 | 6 | 20.7 |
| Have you had any difficulty reading and understanding the learning experiences because they were stated in students' terms? | 0 | 0 | 29 | 100. |

TABLE 2--Continued

| Variables | Number of Teachers Answering Yes | | Number of Teachers Answering No | |
|--|----------------------------------|-------------|---------------------------------|------------|
| | Number of Teachers Answering Yes | Percent Yes | Number of Teachers Answering No | Percent No |
| Are teaching aids supplied where needed? | 23 | 79.3 | 6 | 20.7 |
| Are additional teaching aids needed? | 13 | 44.8 | 16 | 55.2 |

TABLE 3

SUMMARY OF THE TEACHERS' OVERALL EVALUATION
OF THE HE-CVAE INSTRUCTIONAL MATERIALS

| Variables | Teachers' Opinion | Percentage Stating Opinion |
|--|-------------------|----------------------------|
| The HE-CVAE instructional materials have been: | | |
| Extremely useful | 12 | 41.4 |
| Very useful | 11 | 37.9 |
| Somewhat useful | 6 | 20.7 |
| Not very useful | 0 | 0 |
| Useless | 0 | 0 |

sample of twenty-nine teachers, twenty-three (79.3%) judged the HE-CVAE instructional materials to be very useful or extremely useful. The remaining six (20.7%) indicated that the instructional materials were somewhat useful. The in-

dividual responses made by the teachers on the questionnaire pertaining to an evaluation of the instructional materials indicate the instructional materials are useful in helping HE-CVAE students reach the stated objectives. The data from the questionnaire also determined that each learning experience was used by at least 20.7% of the respondents: none of the stated learning experiences were completely omitted by the sample. Further evaluation of the instructional materials indicated the teachers' felt the learning experiences were stated clearly enough to be easily read, understood, and used.

Test of Hypotheses

Three null hypotheses were used in the study. Interpretation of the statistical analyses were made with the following questions in mind: (1) Did the pretest and the post-test scores of the ranked age groups of HE-CVAE students indicate a significant increase in the students' knowledge of convenience food? (2) Was there a significant relationship between the selected variables pertaining to the teacher including the education level attained, the number of HE-CVAE workshops attended and the years the teacher had taught and the teachers' overall evaluation of the instructional materials? (3) Was there a significant relationship between the selected variables pertaining to school and community including the type of program (Home

and Community or Food Service) the population of the area, and the teachers perception of the attitude of the community toward HE-CVAE and the teachers' overall evaluation of the instructional materials?

Hypothesis 1

The cognitive differential test scores for the HE-CVAE students were analyzed in terms of the first hypothesis which stated:

Hypothesis 1: There is no significant difference between the mean differential scores on the pretest and the post-test for the ranked age groups of HE-CVAE students.

The students were ranked in groups by Duncan's New Multiple Range Test. Table 4 summarizes the statistics for ranking the students by age groups.

TABLE 4

HE-CVAE STUDENTS RANKED ACCORDING TO AGE

| Treatment Number | Label | Mean Differential Scores for Groups | Standard Deviation of Differential Scores for Groups | Number of Replications | Rank |
|------------------|---------|-------------------------------------|--|------------------------|------|
| 1 | 14 yrs. | 7.831 | 5.9647 | 118. | 5 |
| 2 | 15 yrs. | 6.423 | 5.6818 | 201. | 4 |
| 3 | 16 yrs. | 5.760 | 6.0393 | 104. | 3 |
| 4 | 17 yrs. | 4.692 | 4.4787 | 39. | 2 |
| 5 | 18 yrs. | 2.5649 | 2.5649 | 20. | 1 |

On the basis of the analysis of the data presented in Table 4, the 482 subjects of the study are ranked in the following age groups: 14 years (118), 15 years (201), 16 years (104), 17 years (39), and 18 years (20). Single-classification analysis of variance was used to determine the significance of the means of the students' scores using the pretest and post-test differential scores. Analysis of data in Table 4 reveals there is a decrease in the mean differential scores of the HE-CVAE students as there is an increase in age. Table 5 summarizes the statistics related to Hypothesis 1.

TABLE 5

DIFFERENCES BETWEEN COGNITIVE PRETEST AND POST-TEST
SCORES OF HE-CVAE STUDENT AGE GROUPS

| Source of Variation | Sums of Squares | Degrees of Freedom | Mean Squares | F Ratio | Lev. of Sig. |
|---------------------|-----------------|--------------------|--------------|---------|--------------|
| Between Groups | 470.1465 | 4 | 117.5366 | 3.6732 | .01 |
| Within Groups | 15263.2109 | 477. | 31.9983 | | |
| TOTAL | 15733.3555 | 481. | | | |

On the basis of the analysis of the data presented in Table 5, Hypothesis 1 was rejected. The F value was significant at the .01 level which indicates that due to the use of the instructional materials, the HE-CVAE students'

post-test scores did show a significant gain over the pre-test scores.

Hypothesis 2

To interpret the HE-CVAE teachers' evaluation of the instructional materials, variables pertaining to the teacher, school and community were correlated with the teachers' overall evaluation of the materials. The teachers' overall evaluation of the materials was assessed by her response to question number eight on the evaluation form. Table 6 presents the data used to test the second hypothesis which stated:

Hypothesis 2: There is no significant relationship between the HE-CVAE teachers' evaluation of the instructional materials and selected variables pertaining to the teacher including the education level attained, the number of HE-CVAE workshops attended and the years the teacher had taught.

Table 6 summarizes the statistics related to the analysis of Hypothesis 2.

Interpretation of the data in Table 6 did not reveal a significant relationship between the variables pertaining to the teacher including the education level attained, the number of CVAE workshops attended and the years the teacher had taught and the teachers' overall evaluation of the instructional materials. The chi-square value was considered significant at the .05 level. Therefore, Hypothesis 2 was accepted.

TABLE 6

ANALYSIS OF HE-CVAE TEACHERS' EVALUATION OF THE
INSTRUCTIONAL MATERIALS AND SELECTED
VARIABLES PERTAINING TO
THE TEACHER

| Variables | Chi-Square | Degrees of Freedom | Lev. of Sig. |
|---------------------------------------|------------|--------------------|--------------|
| Evaluation of instructional materials | 4.60265 | 4 | NS |
| Education level attained | | | |
| Evaluation of instructional materials | 11.70876 | 6 | NS |
| Number of CVAE workshops attended | | | |
| Evaluation of instructional materials | 1.13433 | 2 | NS |
| Years teacher had taught | | | |

Hypothesis 3

The teachers' overall evaluation of the instructional materials was correlated with selected variables pertaining to the school and community to interpret the HE-CVAE teachers' evaluation of the instructional materials. Table 7 gives the data used to test the third hypothesis which stated:

Hypothesis 3: There is no significant relationship between the HE-CVAE teachers' evaluation of the instructional materials and selected variables pertaining to the

school and community including the type of program (Home and Community or Food Service), population of the area and the teacher's perception of the community attitude toward HE-CVAE.

Table 7 summarizes the statistics related to the analysis of Hypothesis 3.

TABLE 7

ANALYSIS OF HE-CVAE TEACHERS' EVALUATION OF THE
INSTRUCTIONAL MATERIALS AND SELECTED
VARIABLES PERTAINING TO THE
SCHOOL AND COMMUNITY

| Variables | Chi-Square | Degrees of Freedom | Lev. of Sig. |
|--|------------|--------------------|--------------|
| Evaluation of instructional materials | 2.02853 | 2 | NS |
| Type of program (Home and Community of Food Service) | | | |
| Evaluation of instructional materials | 4.59371 | 6 | NS |
| Population of area | | | |
| Evaluation of instructional materials | 8.68771 | 6 | NS |
| Community attitude toward HE-CVAE | | | |

Hypothesis 3 was accepted as interpretation of the data in Table 7 did not reveal a significant relationship between the variables pertaining to the school and community including the type of program (Home and Community or

Food Service), the population of the area and the teacher's perception of the community attitude toward HE-CVAE and the teachers' overall evaluation of the instructional materials. The chi-square value was considered significant at the .05 level. Table 8 summarizes the three null hypotheses tested.

TABLE 8
SUMMARY OF HYPOTHESES TESTED

| Hypothesis | Test | Status |
|--|--------------|----------|
| 1. There is no significant difference between the mean differential scores on the pretest and the post-test for the ranked age groups of HE-CVAE students | AOV/.01 | Rejected |
| 2. There is no significant relationship between the HE-CVAE teachers' evaluation of the instructional materials and selected variables pertaining to the teacher including the education level attained, the number of HE-CVAE workshops attended, and the years the teacher had taught | χ^2 /NS | Accepted |
| 3. There is no significant relationship between the HE-CVAE teachers' evaluation of the instructional materials and selected variables pertaining to the school and community including the type of program (Home and Community or Food Service), the population of the area, and the teacher's perception of the community toward HE-CVAE | χ^2 /NS | Accepted |

CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS
FOR FURTHER RESEARCH

The purpose of the chapter are to summarize the study and to draw conclusions which appear to be justified as a result of the analysis and interpretation of the data collected. Recommendations for further research in the development and evaluation of instructional materials for the Home Economics Coordinated Vocational-Academic Education Program are based upon the findings of the study.

Summary of the Study

The primary problems of the study were to develop instructional materials in convenience foods and to evaluate the effectiveness of the materials developed for HE-CVAE students. The secondary problems were to (1) identify the characteristics of HE-CVAE students through a review of literature, (2) develop objectives and learning experiences suitable to the learning styles of HE-CVAE students, (3) develop an objective test to be used as a pretest and a post-test for HE-CVAE students, (4) develop an evaluation instrument in the form of a questionnaire to be used by the HE-CVAE teachers when evaluating the instructional materials,

(5) to determine the effectiveness of the instructional materials, (6) determine the significance of the differential scores on the pretest and post-tests of the age groups, and (7) determine if there was a significant relationship between the teachers' overall evaluation of the instructional materials and selected variables pertaining to the teachers, schools, and communities.

It was hypothesized that the differential scores made by the student age groups on the pretest would not be significantly greater than the differential scores made by the student age groups on the post-test. It was further hypothesized that there would be no significant difference between any of the variables investigated and the teachers' evaluation of the HE-CVAE instructional materials. The variables which were analyzed were: educational level attained by the HE-CVAE teachers, number of CVAE workshops attended by teachers, years the teachers had taught, the population of the area where the teacher taught, type of HE-CVAE program (Home and Community or Food Service), and the teacher's perception of the attitude of the community toward HE-CVAE.

Data for testing the hypotheses were acquired from the scores made by students on a test administered both as a pretest and a post-test. Additional data for testing hypotheses pertaining to the teachers evaluation of the

instructional materials were obtained from a questionnaire designed by the investigator, mailed to the respondents, and returned by them.

The study was conducted with a sample of 482 students who were enrolled in HE-CVAE classes, and twenty-nine HE-CVAE teachers in Texas. The classes were conducted during March and April of 1975.

The single-classification analysis of variance was used to determine the significance of the differential scores of students in different age groups. The chi-square analysis was used to determine whether significant relationships existed among variables pertaining to teacher, school, and community data, and the teachers' overall evaluation of the HE-CVAE instructional materials developed by the investigator.

Findings of the Study

Findings from the analysis and interpretation of the data were as follows:

1. There was a significant difference at the .01 level between the differential scores on the pretest and the post-test of the HE-CVAE students in different age groups.
2. There was no significant relationship between the HE-CVAE teachers' overall evaluation of the instructional materials and selected variables pertaining to the teacher

including the education level attained, the number of HE-CVAE workshops attended, and the years the teacher had taught.

3. There was no significant relationship between the HE-CVAE teachers' overall evaluation of the instructional materials and selected variables pertaining to the school and community including the type of program (Home and Community or Food Service), population of the area, and the teacher's perception of the attitude of the community toward HE-CVAE.

Conclusions

The study could make only a limited contribution to the evaluation of instructional materials for HE-CVAE students due to the confined area of subject matter pertaining to convenience food. Based upon the findings of the study, the following conclusions were drawn:

1. Since there was a highly significant difference between the differential scores on the pretest and the post-tests of the HE-CVAE student age groups, it is concluded that the instructional materials developed based on the learning styles and characteristics of HE-CVAE students are an effective way to teach convenience foods. It is also concluded that the significant gains in knowledge of convenience foods displayed by the students were due to the instructional materials presented. Because the HE-CVAE

students made significant cognitive gains, it can be surmised that the teaching strategies upon which the instructional materials were based are effective ways to teach HE-CVAE students of varying ages and experiences. The use of a variety of visual teaching aids, games, and other interesting devices seem to be effective in the HE-CVAE classrooms.

2. Since there was no significant relationship between the HE-CVAE teachers' overall evaluation of the instructional materials and the specific demographic variables pertaining to teachers such as the educational level attained, number of workshops attended, and the years the teacher had taught, it was concluded that the teachers' evaluation of the instructional materials was not dependent on the teacher's educational background and teaching experience. Therefore, it appears that these materials can be used effectively by teachers with varying backgrounds.

3. Due to a lack of a significant relationship in the HE-CVAE teachers' evaluation of the instructional materials and the type of program, population of the area and the teacher's perception of the attitude of the community toward HE-CVAE, it appeared that the teachers' evaluation of the instructional materials was not dependent on the selected school and community variables. Therefore, they could be used in a wide variety of schools.

Implications of Study

This study will enable teachers and those interested in developing instructional curriculum and materials for HE-CVAE students to develop guidelines of effective materials for teaching HE-CVAE. Materials used as basis for teaching the HE-CVAE student should be designed with consideration given to the general characteristics of students in the HE-CVAE program and adaptations made to meet the needs and abilities of the participants. The development of evaluative measures for testing the progress of HE-CVAE students can be accomplished in such a manner that the students' limited reading and linguistic abilities are not correlated with the students' test scores. Learning experiences which are action-oriented may be more motivating than those which require only listening on the part of the student. The HE-CVAE student can gain both cognitive knowledge and performance skills through study of instructional materials which combine both the cognitive and psychomotor domains of learnings.

Recommendations for Further Study

The study of the effectiveness of instructional materials developed in the area of convenience food for use in HE-CVAE classrooms has revealed the need for further research in the following areas:

1. The same convenience food module extended over a

longer period of time to include more of the learning experiences.

2. The same learning module taught during another time of the year when budgets are not low.

3. Development and evaluation of modules in other areas of Food Service for the Home Economics Coordinated Vocational-Academic Education program.

4. Studies of similar nature that compare the use of specific types of media in teaching HE-CVAE students.

5. Studies of similar nature that compare specific methods of teaching HE-CVAE students.

6. Development and evaluation of other testing instruments, such as a sort board or a performance test, to assess student achievement.

7. Development and evaluation of instructional materials developed by the Home Economics Instructional Materials Center for other gainful programs.

LIST OF REFERENCES

1. Armstrong, Donovan. "Report of Work Group Number Three." Manpower and Training Needs of the Food Service Industry: Report of a National Conference. Washington, D.C.: Manpower Administration, [1964].
2. Arny, Clara Brown. Evaluation in Home Economics. New York: Appleton-Century-Crofts, Inc., 1953.
3. Ausubel, David P. "How Reversible Are the Cognitive and Motivational Effects of Cultural Deprivation? Implications for Teaching the Culturally Deprived Child." Urban Education 1, Summer 1964, pp. 16-25.
4. Barbe, Walter B. "Identification and Diagnoses of the Needs of the Educationally Retarded and Disadvantaged," in The Educationally Retarded and Disadvantaged, pp. 96-121. Edited by Paul A. Witty. Chicago: The University of Chicago Press, 1967.
5. Beavers, Irene. "Contributions Home Economics Can Make to Low-Income Families." Journal of Home Economics 59 (January 1967): 48-50.
6. Borg, Walter R. and Gall, Meredith, D. Educational Research, an Introduction. New York: David McKay Company, Inc., 1973.
7. Cavanagh, Catherine, and Price, Dorothy A. "Teaching Decision-Making to the Disadvantaged." Journal of Home Economics 60 (May 1968): 337-342.
8. Cross, Karen M. "Problems Faced by Home Economists Working with Disadvantaged Youths with Implications for Preservice Education." Unpublished Master's thesis, Oklahoma State University, 1971.
9. Dale, Edgar. Audio-Visual Methods in Teaching. New York: The Dryden Press, 1964.

10. Daniel, Walter G. "Problems of Disadvantaged Youth, Urban and Rural." The Journal of Negro Education 33 (Summer 1964): 218-224.
11. Davies, Don. "Which Statistics Do You Read?" American Vocational Journal 45 (November 1970): 89-92.
12. Deutsch, Martin. "Some Psychosocial Aspects of Learning in the Disadvantaged," in Teaching the Culturally Disadvantaged Pupil, pp. 56-73. Edited by John M. Beck and Richard W. Saxe. Springfield: Charles C. Thomas, Publisher, 1965.
13. Fainter, Laura Shuford. "A Multi-media Approach to Teaching and Testing Apparel Repair in Home Economics Coordinated Vocational-Academic Education." Unpublished Master's thesis, Texas Tech University, 1972.
14. Fantini, Mario D., and Weinstein, Gerald. The Disadvantaged: Challenge to Education. Harper and Row Publishers, 1968.
15. Fleck, Henrietta. Toward Better Teaching of Home Economics. New York: The Macmillan Company, 1974.
16. Gage, N. L., ed. Handbook of Research on Teaching. Chicago: Rand McNally and Company, 1964.
17. Greenway, Donald. "An Overview of the Food Service Industry." Manpower and Training Needs of the Food Service Industry: Report of a National Conference. Washington, D.C.: Manpower Administration, [1964].
18. Haines, Robert G. Food Preparation for Hotels, Restaurants and Cafeterias. 2nd ed. Chicago: American Technical Society, 1973.
19. Hall, Olive A., and Paolucci, Beatrice. Teaching Home Economics. New York: John Wiley & Sons, Inc., 1970.
20. Havinghurst, Robert J. "Who are the Socially Disadvantaged," in The Disadvantaged Learner: Knowing, Understanding, Educating, pp. 129-138. Edited by Staten W. Webster. San Francisco: Chandler Publishing Co., 1966.

21. Hurt, Mary Lee, and Alexander, Margaret. "New Challenges for Home Economics Educators." Journal of Home Economics 61 (December 1969): 771-775.
22. Levine, Lewis. "Counseling, Testing, Allowances Placement." Manpower and Training Needs of the Food Service Industry: Report of a National Conference. Washington, D.C.: Manpower Administration, [1964].
23. Levy, Betty. "An Urban Teacher Speaks Out," in The Disadvantaged Learner: Knowing, Understanding, Educating, pp. 139-155. Edited by Staten W. Webster. San Francisco: Chandler Publishing Co., 1966.
24. Liston, Margaret. "Profiles of Poverty." AAUW Journal 58 (October 1964): 12-14.
25. Medved, Eva. The World of Food. Lexington: Ginn and Company, 1970.
26. Rainey, Jean. How to Shop for Food. Lexington: Noble Books, 1972.
27. Reissman, Frank. The Culturally Deprived Child. New York: Harper and Row Publishers, 1962.
28. Sanders, Judy Kay. "Investigation of Needs of Program Aides in Expanded Nutrition, Texas Agricultural Extension Service." Unpublished Master's thesis, Texas Technological College, 1970.
29. Schreiber, Daniel. "The School Dropout," in The Educationally Retarded and Disadvantaged, pp. 152-171. Edited by Paul A. Witty. Chicago: The University of Chicago Press, 1967.
30. Silberman, Charles E. Crises in Black and White. New York: Random House, 1964.
31. Smith, E. Evelyn, and Crusius, Vera C. A Handbook on Quantity Food Management. 2nd ed. Minneapolis: Burgess Publishing Company, 1970.
32. Smith, Robert G., Jr. The Development of Training Objectives. Research Bulletin 11, Alexandria: Humrro, 1964.

33. Stamps, Ann M. "A Survey of Employment Opportunities in Harrison County, Mississippi, in Commercial Food Service." Unpublished Master's thesis, University of Southern Mississippi, 1968.
34. Strong, Merle. "Public Vocational and Technical Education Programs." Manpower and Training Needs of the Food Service Industry: Report of a National Conference. Washington, D.C.: Manpower Administration, [1964].
35. Taba, Hilda, and Elkins, Deborah. Teaching Strategies for the Culturally Disadvantaged. Chicago: Rand McNally and Co., 1966.
36. Texas Educational Agency. Vocational Homemaking Teachers Directory 1974-1975. Austin: Texas Educational Agency, 1974.
37. Thorner, Marvin Edward. Convenience and Fast Food Handbook. Westport: The Avi Publishing Company, Inc., 1973.
38. Tilma, Janice Foster. "Developmental Characteristics of Students Participating in Coordinated Vocational-Academic Education." Unpublished Master's thesis, Texas Woman's University, 1970.
39. Tinklin, Gwendolyn L.; Fogg, Nancy E.; and Wakefield, Lucille M. "Convenience Foods: Factors Affecting Their Use Where Household Diets are Poor." Journal of Home Economics 64 (February 1972): 26-28.
40. Tyler, Ralph W. Behavior Objectives in Curriculum Development. Englewood Cliffs: Educational Technology Publications, 1971.
41. U.S. Department of Health, Education and Welfare. Training Food Service Personnel. Washington, D.C.: Government Printing Office, 1969.
42. U.S. Department of Labor. Employment Outlook in Restaurant Occupations. Washington, D.C.: Government Printing Office, 1966.
43. Webster, Staten W. "Suggested Strategy for Teaching Socially Disadvantaged Learners," in The Disadvantaged Learner: Knowing, Understanding, Educating, pp. 308-334. Edited by Staten W. Webster. San Francisco: Chandler Publishing Co., 1966.

44. White, Ruth Bennett. Food and Your Future. Englewood Cliffs: Prentice-Hall, Inc., 1972.
45. White, William F. Tactics for Teaching the Disadvantaged. New York: McGraw-Hill Book Company, 1971.
46. Witty, Paul A. "The Educability of Undereducated Americans," in The Educationally Retarded and Disadvantaged, pp. 206-231. Edited by Paul A. Witty. Chicago: The University of Chicago Press, 1967.
47. Wortis, Helen, and Freedman, Alfred. "The Contribution of Social Environment to the Development of Premature Children." American Journal of Orthopsychiatry 35 (January 1965): 57-68.
48. Youmans, Rita L. "A Glimpse of the Inner City." Forecast for Home Economics 14, March 1969, 24-27.
49. _____. "Jobs Aplenty in Hotels, Motels and Restaurants." Changing Times, The Kiplinger Magazine, April, 1968, 21-23.

APPENDIX

- A. Module of Instructional Materials
- B. Letter and Card Concerning Study
- C. Selected Teacher Suggestions
- D. Selected Student Comments
- E. Directions to the Teachers
- F. Evaluation Instrument for Students
- G. Questionnaire for Teachers' Evaluation

APPENDIX A

MODULE OF INSTRUCTIONAL MATERIALS

Convenience Foods

KEY IDEAS: Convenience foods are any food items that have been partially prepared before they arrive at the commercial food facility.

The ability to identify convenience foods is necessary for efficiency in food service.

Following directions in preparation is essential to insure quality of meals utilizing convenience foods.

| | | |
|-----------------------|---------------|----------------|
| WORDS TO KNOW: | convenience | freeze dried |
| | foods | dehydrated |
| | pre-packaged | mixes |
| | foods | canned foods |
| | pre-portioned | frozen foods |
| | foods | microwave oven |
| | concentrated | |

Behavioral Objectives

Learning and Evaluation Experiences

Define convenience foods
(C-K)

Listen to an illustrated lecture to learn the meaning of convenience foods. What is the difference in a convenience food and a food prepared by a conventional method? In your own words, define convenience foods.

Identify items that are convenience foods (C-K)

Study flashcards to learn the identity of convenience foods.

Make a bulletin board using the labels and pictures of convenience foods. Place the bulletin board in the foods lab for student reference.

Select picture cards illustrating convenience foods from the picture cards of food items.

Take a field trip to a restaurant or food service establishment which relies mostly on convenience foods. Name four convenience foods you saw used.

State the advantages and the disadvantages of convenience foods (C-K)

Listen to an illustrated lecture to learn the advantages and the disadvantages of using convenience foods. In your own words explain the advantages of convenience foods; the disadvantages of convenience foods.

Write down the correct term--an A for advantage or a D for disadvantage--as the teacher reads a statement about convenience foods. One point will be allowed for each correct answer.

Explain the reasons for using convenience foods (C-C)

View a chart as the teacher explains the reasons for using convenience foods. In your own words, give three reasons for using convenience food.

Select from a box the name of a convenience food. Give two reasons a food service establishment might use the convenience food.

Discover the difference in time in preparing convenience foods with foods prepared by traditional methods (C-Ap)

Describe convenience foods (C-C)

Identify procedures for preparation of convenience foods (C-K)

Watch a demonstration on preparing potatoes for French fries in the traditional method compared with using frozen french fries. Note the difference in preparation time. Explain the advantages and the disadvantages of the convenience potatoes. Why is it important to follow directions carefully in preparing convenience foods?

Draw an assignment card and prepare the food item on the card. Keep a record of preparation time. (Half of the students will prepare convenience food items; the other half will prepare the same food item using the traditional method. Assignments might include: cakes, frostings, pie crust, pie filling of sliced apples with dried or canned apple pie filling.) Discuss the difference in time used in preparation of the food items. Which method saves the most time? Why was it important to follow the directions in preparing the food?

Look at a display of convenience foods. Explain why each item is considered a convenience food.

Watch a demonstration to learn the different procedures for preparation of convenience foods. What is meant by concentrated foods? freeze dried foods? dehydrated foods? frozen foods? Mixes? Name one food which has been produced by each of the processes. What is the difference in pre-packaged foods and preportioned foods?

View a demonstration of a microwave oven showing the preparation of several different types of convenience foods. (If there is not a microwave oven in the school, or a nearby restaurant or institution, a representative from a major sales company could bring a microwave oven and demonstrate it to the class.) List the advantages of using a microwave oven with convenience foods.

Match up cards of food items with cards stating the method of preparation.

State the processed forms of a convenience food as the teacher reads the name of a food item. (Example: potatoes, frozen, canned or dehydrated.)

Go on a field trip to a supermarket to view the various types of convenience foods and their methods of preparation. List three processes used in producing convenience foods.

Depict a procedure for the preparation of convenience foods (C-C)

Make a poster to show a process used in preparing convenience foods. (Example: frozen process would be illustrated with pictures of food items in the frozen form such as waffles, T.V. dinners, vegetables, etc.) Explain the poster to the class.

Identify the basic mix as a convenience food (C-K)

Watch a demonstration to learn the identity of a basic mix as a convenience food. Explain why a basic mix can be considered a convenience food.

Utilize the basic mix as a convenience food (C-Ap)

State the types of regional, foreign, and ethnic convenience foods available (C-K)

Attempt to prepare regional, foreign, and ethnic convenience foods (P-GR)

Experiment by using the various forms of regional, foreign, and ethnic con-

Draw an assignment card. Prepare the assignment using the basic mix prepared by the teacher. Display finished product for class to view. (Assignments might include small cakes, rolls, cookies, biscuits, and muffins made from the basic mix.)

Watch an illustrated lecture to learn the regional, foreign, and ethnic convenience foods that are available. Name four of the convenience foods.

Take a field trip to a supermarket or wholesale supplier to view the various types of regional, foreign, and ethnic convenience foods that are available. Name four of the foods and the country in which each originated.

Take a field trip to a restaurant that relies heavily on ethnic convenience foods. Name three convenience foods that were used.

Give an example of a convenience food as the teacher calls out the name of a country or a group.

Work in teams of two. Draw an assignment card and prepare the assigned convenience food. (Assignments might include, enchiladas, tamales, minestrone soup, pizza, egg rolls, and Quiche Lorraine.) Display prepared products for class to view.

Divide into groups of four. Prepare one form of a convenience food. (Assigned

venience foods that are available (P-GR)

Prepare an assigned food product using convenience foods (C-AP)

Perform specific tasks in food service utilizing convenience foods (P-M)

Display a desire to identify and correctly use convenience foods in food service (A-V)

forms of tamales might be: canned, frozen, and traditional method.) Display the completed product for class to view.

Sign your name by one of the assigned tasks on the chalkboard. Select the convenience food needed for the assigned task and prepare according to directions. Assignments might include preparing breakfast items using convenience foods. Tasks might include: orange juice (frozen concentrate), hot chocolate (powder mix), scrambled eggs (dried), pancakes (mix), waffles (frozen), and patty sausages or bacon (pre-cooked and frozen). Display the finished product for the class to view. Explain the type of convenience food used. Explain the advantages of using the convenience food.

Draw an assignment card of a food item to be prepared. Select the correct convenience food product and follow directions to prepare the food item.

Prepare and serve a meal consisting entirely of convenience foods.

Use convenience foods as assigned in the food service lab.

Follow directions carefully when preparing convenience foods.

Identify the correct form of a convenience food as it is needed in the food service lab.

APPENDIX B

LETTER AND CARD CONCERNING STUDY

February 27, 1975

Dear

The Home Economics Instructional Materials Center is currently involved in evaluating the instructional materials developed last year for Texas HE-CVAE programs. We need your help.

Would you assist us in evaluating these materials by teaching the convenience food unit from CVAE FOOD SERVICES to your classes? Depending on the class, the unit should take approximately one and a half weeks to teach. You may use the learning experiences provided, eliminate unsuitable experiences, adapt experiences, or add additional learning experiences as needed. The primary objective will be helping your students reach the objectives stated in the unit.

We will provide a test to be used as a pretest and as a post-test. As each test is given it should be mailed to the Home Economics Instructional Materials Center for evaluation. Differences between pretest and post-test scores will assist us in determining whether the instructional materials provide the teacher sufficient information to enable her to help her students reach the objectives listed.

We would like for the pretests to be given, the unit taught and the post-tests to be returned to us by April 25, 1975. At the end of the teaching session you will be asked to participate in an interview with a Home Economics Instructional Materials Center staff member to share your feelings about the instructional materials. We will be interested in your "feedback" and suggestions on how these materials have been used and how they can be improved. We will be particularly interested in the learning experiences you used to help your students to reach the behavioral objectives stated in the unit.

Since you are teaching in the HE-CVAE program, your criticisms and suggestions will be of special value to us in evaluating our CVAE publications. We hope you will agree to help us in our evaluation of these materials. A card and a postage paid envelope have been enclosed for your reply.

Sincerely,

Please mail your reply no later than March 6, 1975

| | Yes | No |
|--|-------|-------|
| Are you willing to participate in the evaluation of the CVAE instructional materials? | _____ | _____ |
| Do you have a copy of <u>CVAE FOOD SERVICES</u> which contains the unit on convenience food (pp. 316-320)? | _____ | _____ |
| Date you could begin testing the unit _____ | | |
| Number of students in your classes _____ | | |
| NAME _____ | | |
| ADDRESS _____ | | |
| _____ | | |
| TELEPHONE _____ | | |

APPENDIX C

SELECTED TEACHER SUGGESTIONS

1. I have been pleased with the materials as is--although, I have probably not used it as much as I should have-- it just takes time to go through all of it.
2. How about tests like this one on convenience foods for other units?
3. Perhaps a supplement now and then to update new resource materials, suggested teaching aids, books, filmstrips, transparencies, etc.
4. Give more resources.
5. I thought it was excellent. Each teacher can improve the material by using their own resources and imagination.
6. No improvements I can see for now. The materials are new and are very good.
7. I can't suggest any improvements. I, personally, need more background and reference material, but my program is new and this can be collected in time.
8. Need more resource material to pull from.
9. Reference list in back of Food Services is excellent, however, the individual units do not indicate what references would be helpful in studying the unit.
10. They were excellent in my opinion. Keep the good work up.
11. Maybe a greater variety of learning experiences to help get across repeated instruction needed in many areas.
12. I would like to see more of a breakdown of materials such as those to be covered on a middle school and those to be used on a high school level.

13. On the whole, I am pleased with the material. To gather all the materials suggested for the learning experiences would take quite a lot of time.
14. I wished for definitions of your "words to know."
15. The learning experiences are of great time-saving value to teachers, and well thought out for students.
16. I feel that our CVAE Foods Service book is excellent. Very clear and very helpful.
17. I thought the food service material you provided most helpful. I felt the greatest value that I realized from its use was the source of organized ideas to accomplish a given goal.
18. I think they are excellent.

APPENDIX D

SELECTED STUDENT COMMENTS

1. I would use a convenience food when I am in a hurry.
2. Convenience foods are easy to prepare and almost anyone can use them.
3. I would use a convenience food to save time in the kitchen.
4. I think it is right to use convenience foods because they are easy to prepare, and you don't have a lot of dirty dishes.
5. My family uses convenience foods--T.V. dinners and some canned foods.
6. Convenience foods save you time to go shopping or to do something else--they are easy and quick to prepare.
7. It is fun to fix convenience foods.
8. I learned that there are many kinds of convenience foods.
9. I would use a convenience food when I am tired from working or when company comes.
10. I have learned to always read the directions so that they will be prepared right.
11. I would use convenience food when I don't feel like cooking.
12. I think it is right to use convenience food because you don't always have time for a large meal and convenience food saves you time.
13. I didn't know there were so many convenience foods.
14. I learned that convenience food cost more than scratch food.

15. I have learned a lot about convenience food because I didn't know anything about it.
16. Convenience foods can cost more.
17. Convenience foods save time, take less space to store, and make less mess.
18. Convenience foods save time and they taste pretty good.

APPENDIX E

DIRECTIONS TO THE TEACHER

Your willingness to participate in the evaluation of the CVAE instructional materials is greatly appreciated. The following information may be helpful when you are teaching the Convenience Food Unit (pp. 316-320) from CVAE Food Services.

1. Curriculum Planning.page 5.

Provides an explanation of concepts and generalizations, behavioral objectives, learning experiences and evaluation.

2. Contents of the Guide.page 6.

Outlines and explains the format used for each major concept related to food services.

3. How to Use the Guidepage 7.

Contains information for using the guide.

4. Definitions of Termspage 8.

5. Taxonomy of Education Objectivespages 9-13.

Explains the system for classifying behavioral objectives and indicates exactly what changes in behavior should be expected from students at each level.

6. Suggestions for Teaching CVAE Students . . .Pages 14-17.

Ideas for presenting information, involving students, using group work and using visual aids.

Depending on the class, the unit should take approximately one and a half weeks to teach. You may use the learning experiences, adapt experiences, or add additional learning experiences as needed. The primary objective will be helping your students reach the objectives stated in the unit.

A test to be used as a pretest and as a post-test is provided. The test is in two sections. After the students have answered the first section of the test, take up that section before handing out the second section of the test (The second section is one page entitled Identification Part II). The pretest should be mailed to the Home Economics Instructional Materials Center for evaluation within one to two days after it is given. Please return the post-tests and the evaluation forms by April 25, 1975.

In administering the test, read the directions aloud as the students read the directions silently. Any questions the students have about the directions should be answered. The term, "Convenience Food," or other terms should not be defined on the pre-test.

- _____ 5. The cost of convenience foods is
- always more than other foods.
 - sometimes more than other foods.
 - always less than other foods.
- _____ 6. Sally is preparing frozen tamales for dinner. The first thing Sally needs to do is
- turn the oven on.
 - read the directions.
 - thaw the tamales.
- _____ 7. It is important to follow directions when preparing frozen convenience foods because all frozen foods
- are cooked the same length of time.
 - are cooked at 450° F. for ten minutes.
 - have different cooking times and temperatures.
- _____ 8. When Judy gets home from work she has 15 minutes to prepare bread for dinner. To save time Judy should
- make a recipe of biscuits.
 - make biscuits from a basic mix.
 - fix canned, refrigerated biscuits.
- _____ 9. Sue wants to save money on her food bill and she has plenty of time to prepare dinner. Most of the time Sue can save money by fixing
- frozen dinner rolls.
 - muffins from a basic mix.
 - brown and serve rolls.
- _____ 10. The teacher asked the class to use convenience foods for breakfast. Bill is to prepare the fruit. He should
- use frozen orange juice.
 - squeeze fresh orange juice.
 - slice an orange into sections.
- _____ 11. Mary has been studying convenience foods at school. She wants to surprise her mother by making cookies. The cookies that would be a

convenience food are cookies made from

- a. "scratch."
- b. a mix.
- c. a new recipe.

- _____ 12. Jim's mother wants to save money on her food bill. She sent Jim to the store to buy carrots. Jim should
- a. choose sliced frozen carrots.
 - b. choose fresh carrots wrapped in a plastic bag.
 - c. compare prices and then choose the carrots to buy.

MATCHING

DIRECTIONS: For each Food listed locate the Type of Food that it is. Place the letter for your answer in the blank to the left of each Food. Each answer can be used more than once. (2 points for each right answer)

| <u>Food</u> | <u>Type of Food</u> |
|---|-----------------------------|
| _____ 13. Instant mashed potatoes | A. Convenience Food |
| _____ 14. Raw apple | B. Food made from "scratch" |
| _____ 15. Apple juice | C. Fresh product |
| _____ 16. Dried fruit | |
| _____ 17. Cake made from a recipe | |
| _____ 18. Bananas | |
| _____ 19. Canned apple sauce | |
| _____ 20. Muffins made from a basic mix | |
| _____ 21. Brown and serve rolls | |
| _____ 22. Garden peas | |

MATCHING

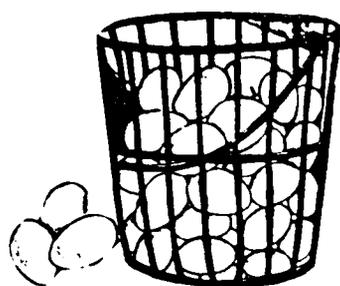
DIRECTIONS: Many regional, foreign and ethnic foods are prepared as convenience foods. For each Food listed locate the Country from which each food came. Place the letter for your answer in the blank to the left of each Food. Each answer can be used more than once. (2 points for each right answer)

FoodCountry

- | | | |
|-------|----------------|------------------|
| _____ | 23. Tamales | A. China |
| _____ | 24. Hot dog | B. France |
| _____ | 25. Egg roll | C. Italy |
| _____ | 26. Pizza | D. Mexico |
| _____ | 27. Enchilades | E. United States |
| _____ | 28. Ice cream | |
| _____ | 29. Rivioli | |

IDENTIFICATION PART I

DIRECTIONS: Look at each picture. If a convenience food is pictured, mark an X in the box under the picture. If the food pictured is not a convenience food, do not mark in the box. (2 points for each right answer)



30. EGGS



31. BANANAS



32. SPAGHETTI SAUCE



33. FLOUR



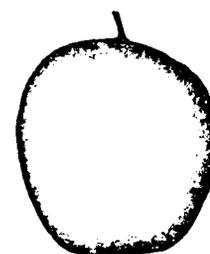
34. CAKE MIX



35. FROZEN PEAS



36. "SCRATCH" CAKE



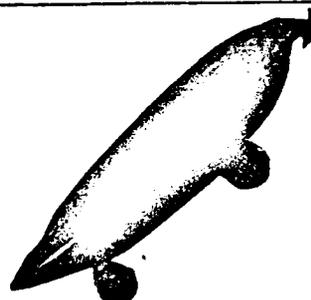
37. APPLE



38. BASIC MIX



39. APPLE JUICE



40. GARDEN PEAS



41. T. V. DINNER

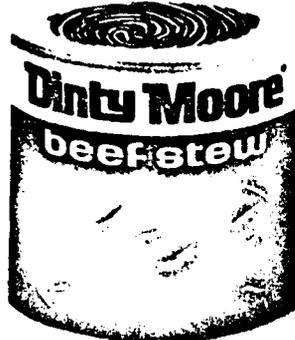
Name _____
 Date _____
 School _____
 Town _____

IDENTIFICATION PART II

DIRECTIONS: Look at each picture of a convenience food. Find the process used to produce the convenience food. Circle the letter of the correct process. Circle only one letter under each picture. (2 points for each right answer)



42. A. CONCENTRATE
 B. FREEZE DRIED
 C. MIX



43. A. FROZEN
 B. CONCENTRATE
 C. CANNED



44. A. MIX
 B. DEHYDRATED
 C. FREEZE DRIED



45. A. FROZEN
 B. CANNED
 C. DEHYDRATED



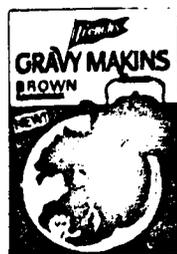
46. A. DEHYDRATED
 B. CONCENTRATE
 C. FROZEN



47. A. CONCENTRATED
 B. MIX
 C. FREEZE DRIED



48. A. FREEZE DRIED
 B. FROZEN
 C. FROZEN CONCENTRATE



49. A. CONCENTRATE
 B. MIX
 C. CANNED



50. A. MIX
 B. FREEZE DRIED
 C. FROZEN

APPENDIX G

QUESTIONNAIRE FOR TEACHERS' EVALUATION

EVALUATION OF INSTRUCTIONAL MATERIALS

Subject: Convenience Foods

DIRECTIONS: 1. Listed below are the behavioral objectives from the Convenience Foods Unit in Food Services. Beside each objective, a number has been given for each learning and evaluation experience in the unit covering that objective.

2. Referring to the learning and evaluation experiences in Food Services, circle the number of each experience you used or adapted in teaching the Convenience Foods Unit. Examples: ① 2 ③ 4 --
① ② ③ .

3. In the comments column, briefly describe any additional experiences you used to help your students reach the objectives.

| BEHAVIORAL OBJECTIVES | LEARNING AND EVALUATION EXPERIENCES | COMMENTS |
|---|-------------------------------------|----------|
| Define convenience foods (C-K) | 1 | |
| Identify items that are convenience foods (C-K) | 1 2 3 4 | |

| BEHAVIORAL OBJECTIVES | LEARNING AND EVALUATION EXPERIENCES | COMMENTS |
|---|-------------------------------------|----------|
| Describe convenience foods (C-C) | 1 | |
| Identify procedures for preparation of convenience foods (C-K) | 1 2 3 4 5 | |
| Depict a procedure for the preparation of convenience foods (C-K) | 1 | |
| State the advantages and the disadvantages of convenience foods (C-K) | 1 2 | |
| Explain the reasons for using convenience foods (C-C) | 1 2 3 | |
| Discover the difference in time in preparing convenience foods with preparing foods by traditional methods (C-Ap) | 1 | |
| Identify the basic mix as a convenience food (C-K) | 1 | |

| BEHAVIORAL OBJECTIVES | LEARNING AND EVALUATION EXPERIENCES | COMMENTS |
|--|-------------------------------------|----------|
| Utilize the basic mix as a convenience food (C-Ap) | 1 | |
| State the types of regional, foreign, and ethnic convenience foods available (C-K) | 1 2 3 4 5 | |
| Attempt to prepare regional, foreign, and ethnic convenience foods (P-GR) | 1 | |
| Experiment by using the various forms of regional, foreign, and ethnic convenience foods that are available (P-GR) | 1 | |
| Prepare an assigned food product using convenience foods (C-Ap) | 1 | |
| Perform specific tasks in food service utilizing convenience foods (P-M) | 1 2 3 | |
| Display a desire to identify and correctly use convenience foods in food service (A-V) | 1 2 | |

TEACHER EVALUATION OF CONVENIENCE

FOOD UNIT

- | YES | NO | |
|-------|-------|--|
| _____ | _____ | 1. Are the learning experiences stated clearly enough for you to use easily? Comments: |
| _____ | _____ | 2. Is the time required in preparation to use the learning experiences reasonable? Comments: |
| _____ | _____ | 3. Did you skip some of the learning experiences because they require too much preparation? Comments: |
| _____ | _____ | 4. Have you been able to find the resources needed to carry out most of the suggested learning experiences? Comments: |
| _____ | _____ | 5. Have you had any difficulty reading and understanding the learning experiences because they were stated in students terms? Comments: |

YES NO

_____ 6. Are teaching aids supplied where needed?
 _____ Comments:

_____ 7. Are additional teaching aids needed?
 _____ Comments:

8. In general, I have found the CVAE instructional materials to be:

- _____ A. Extremely useful.
 _____ B. Very useful.
 _____ C. Somewhat useful.
 _____ D. Not very useful.
 _____ E. Useless.

9. Briefly state how you think the instructional materials may be improved.

Personal Data

10. CVAE Workshops you have attended:

- A. Lubbock, 19 ____.
 B. Houston, 19 ____.
 C. Other, 19 ____.

11. The educational level I have attained is:

- _____ A. High school education.
 _____ B. Vocational and/or technical school.
 _____ C. Bachelor degree.
 _____ D. Master degree.

12. I have work experience in food service.

- _____ A. Yes.
 _____ B. No.

13. Including the present year, the number of years I have taught CVAE is _____.

School and Community

14. The population area in which I teach can be described as:

- _____ A. Under 1,000.
_____ B. 1,000 to 5,000.
_____ C. 5,000 to 25,000.
_____ D. 25,000 to 50,000.
_____ E. 50,000 to 100,000.
_____ F. 100,000 and over.

