THE DEVELOPMENT AND EVALUATION OF A KINDERGARTEN NUTRITION GUIDE BASED ON OPINIONS OF OKLAHOMA KINDERGARTEN TEACHERS TOWARD NUTRITION EDUCATION

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CHAPTER I

INTRODUCTION

Adelson (1968) stated that despite higher income and the greatest abundance of foods in the history of the United States, there has been a decrease in the adequacy of dietary levels of the general population in the past ten years. More diets were rated poor in 1965 than in 1955. These poor diets were found among the affluent as well as the poor.

President Richard Nixon, addressing the Congress of the United States on May 6, 1969, stated:

> In the past few years we have awakened to the distressing fact that despite our material abundance and agricultural wealth, many Americans suffer from malnutrition . . . . People must be educated in choosing proper foods. All of us, poor and non-poor alike, must be reminded that proper diet is a basic determinant of good health (United States Government Printing Office, 1970, p. 147).

Since late 1969, there has been increased interest and a sense of urgency concerning nutritional status of people of the United States. Examples of this interest include the National Nutrition Survey (Schaefer, 1969); the Texas Governor's Committee on Food, Nutrition and Health (Fulmer, 1969); and the White House Conference on Food, Nutrition, and Health (Mayer, 1969). One of the recommendations by the Governor's Committee was that, in order to improve nutrition teaching in our schools, sound nutrition education be integrated into the public school experience beginning in the lowest possible grade (Fulmer, 1969).

Nourishing ourselves is a learned skill according to Gussow (1972), a nutrition educator on the faculty at Teachers College, Columbia University, New York City. She further writes that the ingestion of food and drink is a physiologic survival behavior which, unlike other physiologic behaviors such as breathing and sleeping, must be taught. If one doubts that eating behavior has to be taught, remember that a one-year-old human will eagerly swallow a bottle of aspirin tablets or a cigarette butt.

The dietary practices established during childhood influence lifetime eating habits. Thus, the early elementary years are an opportune time to establish habits which lead to good nutrition. The school has a major influence on the habit formation of young children. Consequently, the elementary classroom teacher can play a significant role in food habit formation (Petersen and Kies, 1972).

Little information is available on nutrition knowledge and attitudes of kindergarten classroom teachers. La Chance (1971) pointed out that a major obstacle to improving the nutritional status in our country is that the one million teachers who have a direct responsibility for helping teach nutrition education, have little or no nutrition training, have no uniform tools and lack effective methods to convey nutrition knowledge.

Recent research with elementary teachers in one Oklahoma school system indicated that nutrition education could be integrated in the elementary school curriculum. Sodowsky (1972) found that when the classroom teacher had accurate information and when innovative methods of teaching were known the elementary teachers in the Blackwell, Oklahoma Elementary School System did integrate nutrition education

into the curriculum.

Livingston (1971), a nutritionist, wrote that in the United States, there are two major problems: one caused by overnutrition (overeating), and one caused by undernutrition and hunger (lack of food). Both types of malnutrition affect all levels of our society. She avers that nutrition educators must meet the challenge to eliminate the malnutrition in this country through relevant methods of teaching for today's society. In addition, Livingston (1971) emphasizes that the fundamental problem for nutrition education is reaching the pre-school children who have not learned to read.

Statement of the Problem

Hunger and malnutrition cause problems in health, motivation, learning, employment, mental development, human relationships and perhaps even mental health. The dietary practices established during childhood influence life-time eating habits. The real job of planning for health and efficiency of people today and in the future depends upon the formation of good health habits in today's children. Therefore, the earlier in the child's life that nutrition education can be implemented in order to develop desirable food habits, the more likely the child will be able to realize his full potential for physical and mental growth. In view of the widespread incidence of poor food habits and the difficulty in changing adult behavior patterns, it would seem very important to start early with a nutrition education program which will help establish habits which lead to good nutrition. The kindergarten teachers across the nation are in an excellent position to combat nutrition ignorance. These educators should continuously

increase their efforts to update and strengthen the curriculum and instruction related to nutrition education in order to protect the health and well-being of members of our society.

The problem in this study was to assess Oklahoma kindergarten teachers' opinions concerning nutrition education at the kindergarten level. This information was further used in developing and designing a nutrition guide appropriate for the kindergarten level that could be used by kindergarten teachers to implement a nutrition education program. These materials would aid the teacher in providing many opportunities for children to gain information about food and nutrition and to develop positive attitudes toward desirable foods during their early formative years when lasting attitudes are being formed. Later kindergarten teachers were asked to offer judgments about the nutrition guide developed by the researcher.

Significance of the Problem

There are more persons in the United States who are malnourished because of nutritional ignorance and misinformation than because of poverty, according to Mann (1969). Livingston (1971) contends that nutrition educators must meet the challenge to eliminate the malnutrition in this country and the world through relevant methods of teaching for today's society.

The White House Conference on Food, Nutrition, and Health directed by Jean Mayer (1970), Special Consultant to the President, was called for the purpose of advising on the development of a national policy aimed at eliminating hunger and malnutrition. The conference members recommended:

> A dynamic nutrition education program that begins in early childhood and continues through the elementary and secondary schools can help young children to acquire positive attitudes toward food and can help older children to assume responsibility for their own food selection and prepare them for adult and parental responsibility. As future citizens in a democracy, children must develop acceptable nutritional practices and a sense of social consciousness to enable them to participate intelligently in the adoption of public policy affecting the nutrition of people (United States Government Printing Office, 1970, p. 147).

Realizing that nutrition education can be incorporated into many curriculum areas and that educators of young children as well as others, need to apply nutrition information in their teaching, the conference panel felt that learning opportunities should be designed to accommodate individual differences arising from cultural, economic, personal, and family conditions.

> By applying the best of what is known about how people learn, by utilizing new educational techniques . . . by using new resources, by transmitting a feeling of excitement about the world of food, nutrition education programs that are dramatic and vital can be developed in schools (United States Government Printing Office, 1970, p. 151).

Educators are challenged to continuously increase their efforts to update and strengthen the curriculum and instruction related to nutrition education. Teachers of young children need to effectively integrate and to apply nutrition information in their curriculum, thereby helping young children develop acceptable nutritional practices and positive attitudes toward food. Once teachers are aware of the nutrition concepts and the basic understandings that can be appropriately developed with young children, they are in a better position to select and guide their activities (Oklahoma Curriculum Improvement Commission, 1971).

Objectives of the Study

The objectives for this study were the following:

1. Review literature relating to nutrition surveys and conferences; nutrition education for teachers; characteristics of young children; and to gain insight into work in nutrition education with young children.

2. To gather kindergarten teachers' opinions concerning nutrition education at the kindergarten level.

3. To develop a nutrition guide which would help kindergarten teachers to implement nutrition education into their curriculum.

4. To assess kindergarten teachers' judgments about the nutrition guide.

5. To formulate recommendations for implementing nutrition education resource materials to meet the needs of kindergarten teachers.

Procedure

Although a detailed description of the procedures for this study is discussed in Chapter III, a simplified version of the steps taken to accomplish the objectives of the study follows:

1. The researcher reviewed literature and research related to nutrition surveys and conferences, nutrition education for teachers, characteristics of kindergarten children, and nutrition education work with young children which provided the rationale for the present study.

2. The population of the study was defined. Kindergarten teachers attending the Oklahoma Kindergarten Teachers Association meeting who volunteered were chosen as subjects. A total of 250 kindergarten teachers volunteered to participate in the study.

3. An instrument was developed for use in collection of data to evaluate the kindergarten teacher's opinions concerning nutrition education. A pilot study to test the instrument was conducted by administering the survey to a group of kindergarten teachers. Necessary revisions were made before mailing the instrument to the sample, which was made up of 218 kindergarten teachers who met criteria and volunteered at the Oklahoma Kindergarten Teachers Association meeting to take part in the research.

4. The data from the Kindergarten Teacher Nutrition Survey instrument were tabulated, analyzed, described and used in developing the nutrition guide.

5. A nutrition guide was compiled, reviewed, and mailed to kindergarten teachers to aid them in implementing nutrition education in their curricula.

6. An instrument for kindergarten teachers to use in evaluating the nutrition guide was built. The instrument was mailed to the 157 volunteers who completed the first survey instrument.

7. The results from the evaluation of the guide were tabulated, analyzed and recommendations were then made for implementing nutrition education at the kindergarten level.

Definition of Terms

Because of the interdisciplinary character of nutrition education, an understanding of terminology is essential. For the purpose of this study the following terms will be defined:

Nutrition--is the food you eat and how the body uses it (Missouri Division of Health, 1971, p. 3).

Nutrition education--is planned nutrition instruction which includes all types of materials, magazines, pamphlets, and books and audio-visuals (Martin, 1971, p. 29).

Concepts--are symbolic of many images and memories which have become blended into a meaningful whole from which unrelated ideas have been mostly eliminated (Wann, Dorn, Liddle, 1962, p. 10).

Kindergarten teacher--the professional teacher in a public school kindergarten who holds an approved certificate, issued by the State Board of Education, to teach kindergarten in the state of Oklahoma (Oklahoma State Department of Education, 1971, p. 22).

Kindergarten child--a child who has reached the age of five years on or before November 1, attending the public school kindergarten (Oklahoma State Department of Education, 1971, p. 21).

Nutrition Guide--a booklet consisting of nutrition education resource materials. Section I contained five fundamental concepts and learning activities for each of the concepts. Section II provided a wide variety of cooking experiences to carry out in order to further help the students understand the five concepts. The last section, III, contained a list of children's books related to foods, free and inexpensive teaching materials, films and filmstrips, and a basic puppet pattern.

Limitations of the Study

The study is limited to kindergarten teachers who attended and volunteered to take part in the study during the fall semester, 1973, at the Oklahoma Kindergarten Teachers Association meeting at Oklahoma City on October 18, 1973. The respondents for the questionnaires were

to be teachers of kindergarten children in the state of Oklahoma. The population for this study is limited by the fact that only volunteers who were willing to complete both the nutrition survey and the evaluation of the nutrition guide were selected.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this chapter was to develop a rationale for the study based on current literature which pertains to nutrition education. The review contains sections on: (1) nutrition surveys and conferences, (2) nutrition education for teachers, (3) characteristics of kindergarten children, and (4) nutrition education work with young children.

Nutrition Surveys and Conferences

A knowledge of the nutritional status of the citizens of the United States is essential for one to understand the need for nutrition related research. This type of nutrition information is important if one is to define nutrition problems of a segment of our population and plan for corrective nutrition programs. This section will provide a brief review of pertinent information about nutrition surveys and conferences throughout the United States.

Nutrition Surveys

A comprehensive review of the 1950-1968 publications of studies of United States vitamin and mineral nutrition was undertaken by Davis, et al. (1969). Davis and his co-authors confirmed that dietary habits of the American public have worsened since 1960.

Another survey was conducted to determine the changes in diets of households, from 1955-1965. Adelson (1968) analyzed the survey and reported that in the past decade in the United States, despite higher income and a great abundance of food, there has been a decrease in the number of households reporting adequate levels of food consumption. Twenty-five per cent of the diets reported in the 1965 survey provided less than two-thirds of the allowance for one or more of the nutrients studied. This level would be considered inadequate over an extended period of time. These poor diets were found among the affluent as well as the poor. More diets were graded poor in 1965 than in 1955. The implications of the survey for nutrition education indicate that nutrition programs, to meet the needs of all age groups, were needed (Adelson, 1968, pp. 448-455).

Within the past twenty years, there have been published a number of dietary and biochemical studies in many parts of the United States for the purpose of assessing nutritional status. Owen and Kram (1969) report that nutritional deficiencies were found in the diets of 558 preschool children from all socio-economic income levels in Mississippi. Calcium, riboflavin, and ascorbic acid were the most limited factors in the diets of these preschool age children. Owen and Kram's findings were supported by biochemical assays and growth achievement research. According to Owen and Kram it was found that in general the greater the family income, the more adequate was the intake of calories, calcium, protein and vitamin C. The children from the lowest income groups were found to have more low values of nutrient intake than children of the highest income group, but the fact that some children of families with the highest income did have nutritional deficiencies is indicative of

the fact that nutritional adequacy is related to dietary habits and food preparation as well as income.

A recent School Lunch Division survey (1970) of food habits has revealed that of 6,184 Oklahoma school children, seven per cent were judged to have less than a third of the calcium required daily; nine and a half per cent received less than a third of the vitamin A needed by them. The B vitamins were consumed in adequate amounts for 85 per cent of the children, while only 75 per cent were judged to have enough iron. The study further revealed that five- and six-year-old children had the least adequate diets. The Oklahoma School Lunch Survey agreed with the findings of Owen (1968) that inadequate diets were found among children from all levels of income.

One of the most comprehensive nutritional surveys ever undertaken was the 1965 Food Consumption Survey. The nutrients which were most often found to be below the recommended amounts in the diets of children and adults of all regions in the 1965 Food Consumption Survey were vitamin A, ascorbic acid, calcium and iron (Kelsay, 1969). Findings of Owen and Kram (1969) concurred with some of the findings of the 1965 Food Consumption Survey. In summary, these three studies showed that the greater the family income, the more adequate was the intake of calories, calcium, protein, and vitamin C.

The 1968-1970 Ten-State Nutrition Survey, in which Massachusetts was one of the states studied, provided insight for the need for nutrition education according to Callahan (1973). A 24-hour dietary survey of the Massachusetts public school children conducted in 1969 revealed that 139,000 boys and girls came to school without breakfast on the survey day and 500,000 children ate an inadequate lunch on that day.

All ethnic and socio-economic segments of our society need to be studied in nutrition surveys. As part of a national study of the nutrition of preschool children, data were collected by Owen et al. (1970) on 201 Apache children, one to six years of age, living on an Indian reservation in Arizona. The pattern of insufficient or inadequate dietary intakes, growth, underachievement and biochemical evidence of nutritional risk seen for Apache children was similar to that of children living in poverty in Mississippi.

Birch (1971) writes about a survey using poor socio-economic level children as respondents. He suggests that the evidence shows that some degree of malnutrition is relatively widespread among poor children. However, the effects of inadequate nutrition on growth and mental development depend to a large extent on the severity, the timing (pre- and postnatal), and the duration of the nutritional deprivation. There is strong indication that nutritional factors at a number of different levels contribute significantly to depressed intellectual level and learning failure. Moreover, an adequate state of nutrition is necessary for good attention and for appropriate and sensitive responsiveness to the environment.

One of the purposes of a nutrition survey discussed by Eppright et al. (1969) and Vivian (1974) was to reveal information helpful in planning and conducting nutrition education programs. They made a survey of 3,444 children ranging in age from birth to six years in 2,000 households in 12 north central states. The study provided new insights into eating behavior of children. Most of these children in this study came from families who could afford to buy foods to provide a proper diet. However, one family in ten may have been on a marginal economic

level. The study found that preschool children make food selection decisions more often at breakfast and snack periods than at other times. More children were allowed freedom in deciding upon the amount of food eaten than in deciding upon which foods are eaten. The study suggests that about half the young children who enter school have little experience in making decisions about food selection. They also found that by the age of three, many children had developed dislikes for certain foods, particularly vegetables, but few disliked fruits. The vegetables most frequently disliked, in order mentioned, were spinach, carrots, green beans, and peas. Twenty-three per cent of the mothers surveyed used foods as rewards for good behavior; 10 per cent used deprivation of food as punishment; and 29 per cent used foods as a pacifier. This study indicated that children choose a limited variety of foods from a very young age (three months to six years). In addition, lifetime eating habits may be influenced by many factors in the early feeding of children.

White House Conferences on Food, Nutrition and Health

The government of the United States has demonstrated its concern and interest in nutrition education by sponsoring national conferences in Washington, D. C., since 1941. The purposes and goals of these conferences were:

1. To appraise current nutrition knowledge, various techniques of adding to it, and ways of disseminating it.
2. To evaluate our food supply and the nutriture of our people.

3. To study the influence of technological improvements in the production, distribution, and processing of food.

4. To measure the impact of changing sociologic, economic, and political conditions upon the diets and food habits of our people.

5. To focus attention on dietary problems which are unique to particular age groups, and to find the best techniques for teaching those groups better food habits.

6. To discuss and assess the role of each specialist in his own field in relation to roles of other specialists as a means of achieving maximum cooperation toward progress in nutrition education (Eppright, Pattison, Barbour, 1963, pp. 218, 219).

One of the outstanding recent Conferences on Food, Nutrition and Health was held in 1969. The 26 panels of experts attended a three-day White House Conference on Food, Nutrition, and Health in Washington, D. C., on December 2-4, 1969. Their goal was to develop a national policy aimed at eliminating hunger and malnutrition due to poverty and improving the nutritional health of all Americans. Panels were led by 52 leaders in medicine, nutrition, dietetics, home economics, education and other professions (United States Government Printing Office, 1970). Section IV-1, Nutrition Education in Elementary and Secondary Schools, was chaired by Dr. Ercel Eppright and Dr. George M. Briggs. This section of the conference which dealt primarily with nutrition education, Panel IV-1 (p. 147), is being brought into focus for this review. This report recognized the urgency for immediate action to eliminate hunger and the need for a long-range program in nutrition education. A dynamic nutrition education program that begins in early childhood and continues through the elementary and secondary schools can help children to acquire positive attitudes toward food.

The report from the White House Conference on Food, Nutrition and Health emphasized that every American should have access to knowledge

of nutrition and its relation to health as well as to the purchasing power to secure food to meet his nutritional requirements. Sound nutrition education should be made available to enable each individual to become competent in selecting the best diet at the least cost, and which is culturally acceptable to him. In addition, every person should have sufficient economic resources so that these choices can be made without compromising social values, family traditions or cultural preferences.

Recommendation No. 6 from the White House Conference on Food, Nutrition and Health, concerning curriculum development in nutrition education stated,

> Every person throughout his life should be able to make decisions on his choices of foods based on an understanding of his needs as determined by:
> 1. His physiological state and physical activities,
> 2. His knowledge of nutrient composition of plant, animal, and formulated foods in his environment,
> 3. His ability to distinguish between truth and distortion in relation to foods, nutrition and health, and
> 4. His ability to use his available resources whatever they may be.
>
> As future citizens in a democracy, children must acquire knowledge and social consciousness which will enable them to participate intelligently in the adoption of public policy affecting the nutrition of the people (United States Government Printing Office, 1970, pp. 150-151).

Panel IV of the White House Conference on Food, Nutrition, and Health made the following recommendations in relation to teaching nutrition and nutrition programs:

> That a comprehensive and sequential program of nutrition education be included as an integral part of the curriculum of every school in the United States and its territories.
>
> That a proposed conceptual framework be used as a resource in developing new curriculum and evaluation of existing curriculum.

> That a national interdisciplinary study group be appointed to give further study of the proposed conceptual framework, to assess the current status of nutrition education in the schools, to prepare curriculum guidelines and resource materials for use by state and educational agencies, and to suggest pilot programs to test, evaluate and revise materials (United States Government Printing Office, 1970, p. 151).

Another recommendation was that action needs to be taken to support nutrition education in schools. One of the goals of nutrition education is to develop an informed public capable of making wise food choices. One way to do this is for food industries, textbook publishers, state and federal agencies to encourage the development of additional nutrition curriculum materials and aids which reflect the different cultures of the people of our nation. At the White House Conference, the panel on nutrition surveillance recommended that preschool children, primary school children, expectant mothers, and low-income persons be given priority to correct nutritional deficiencies (Mayer, 1969-1970).

The most recent meeting was a follow-up conference, held in January, 1971, which had been built into the structure of the original conference. It served to measure the effectiveness of education programs that had been put into operation as well as emphasize deficiencies (Mayer, 1971).

The review in this section gave evidence that hunger and malnutrition are problems of all segments of the United States population. There is now an increased interest and a sense of urgency to combat hunger and malnutrition in the United States because they create problems in health, motivation, learning, employment, mental development, human relationships, and mental health. This resume of information provided insight into the need to attempt to raise the nutritional

consciousness of the American people, as well as implement corrective nutrition programs. These education programs need to begin at an early age because the dietary practices established during childhood influence lifetime eating habits.

Nutrition Education for Teachers

The improvement of nutrition education has been widely emphasized since the White House Conference on Food, Nutrition, and Health in 1969 and the follow-up conference in 1971. Many people are helping call attention to the need for urgent improvement of the diets and food habits of Americans.

Promotion of Nutrition Education

Preparation for Teachers

The White House Conference on Food, Nutrition and Health, 1969, suggested a number of recommendations relative to preparing persons who have responsibility for nutrition education in schools, including elementary teachers. The panel suggested than an adequate preparation for teaching nutrition in the schools requires undergraduate education in nutrition, as well as in methods of teaching it. One of the recommendations was stated as follows:

> State Departments of Education should encourage individual universities and colleges to incorporate nutrition units in existing courses for all elementary teachers, school nurses, and at the secondary level, all teachers of health education, biology, chemistry, home economics, and physical education (White House Conference on Food, Nutrition, and Health Final Report, 1970, p. 27).

A number of states are developing legislation designed to aid the introduction of nutrition teaching in public schools systems. The

state of New York enacted legislation of this type which went into effect at the beginning of the 1970-71 school year. The New York State Education Department (1969) has developed excellent curriculum materials pertaining to nutrition education; among them was the Health, Grades K-3, Physical Health and Nutrition.

Ebersol (1974) writes that the New Jersey Home Economics Association is in the process of drafting a legislative proposal to improve nutrition education from pre-kindergarten through grade 12. This would aid teachers in New Jersey to implement an effective sequential nutrition education program.

The Home Economics Division of the Department of Vocational and Technical Education and several colleges worked with the Oklahoma School Lunch Division in making a survey of 10,000 Oklahoma school children. One of the implications and recommendations from the Oklahoma Food Habits Survey was that an intense concentrated effort should be made to encourage nutrition education as a requirement for certification of elementary school teachers (School Lunch Division, 1970).

Texas is another state that has met the challenge for improving nutrition education. One of the recommendations by the Texas Governor's Committee on Food, Nutrition and Health (Fulmer, 1969, p. 3) was that, in order to improve nutrition teaching in the schools, "Sound nutrition education should be integrated into the public school experience beginning in the lowest possible grade." This recommendation, along with the cooperation of the Elementary Education department and the conviction of the Department of Food and Nutrition faculty at Texas Tech University, that elementary school teachers should have some basic nutrition knowledge, led to the development of a nutrition course for

elementary majors. Beginning in the Fall, 1970, 20 elementary education majors at Texas Tech were permitted to take a basic food and nutrition course to fulfill one of their laboratory science requirements (Brittin, 1971). This type of training is in agreement with Kopel (1970, p. 104) who wrote that some emphasis in college food and nutrition curriculums should be focused on providing a nutrition education background for elementary teachers.

More effective nutrition education is needed to help people understand what nutrition is, why nutrition knowledge is vital to their welfare, and how it can be achieved in their culture (Todhunter, 1969). Nutrition education and proper dietary practices are essential for the well-being of all people, from the affluent to the disadvantaged (Hayes, 1969).

Methods Used to Increase Teacher Competency in Nutrition Education

It appears that a wide variety of different methodologies has been utilized to increase teacher competency in nutrition education. One interesting study reported by Wakefield and Vaden (1973) was a telephone teaching medium, telenet, which was an alternative to the more traditional methods of on-campus classes. The telenet course in nutrition for elementary teachers was taught using Kansas State University Continuing Education Telenet (telephone network). The telenet served as an effective medium for providing nutrition education opportunities for 111 students in 18 stations in geographically far-flung, sparsely populated areas in Kansas. Transparencies, slides, sack puppets, booklets, pamphlets, and hand out materials were used to supplement the

lecture-discussion and the text, Nutrition in Action. Data from the pre/post tests given to teachers participating in this course indicated a significant gain in nutrition knowledge or cognitive learning during the nutrition course (Wakefield and Vaden, 1973, p. 191).

The workshop has also been a helpful method used to bring nutrition education to teachers. Sodowsky (1972) conducted a seven-hour nutrition workshop for elementary teachers in Blackwell, Oklahoma. In the workshop, she showed ways nutrition education could be integrated into the elementary curriculum areas of health, social studies, science, the communicative arts, the dramatic art activities and physical education studies. Upon completion of the workshop, 113 ideas were planned to be used by the teachers in all areas of the curriculum. At the follow-up evaluation, 138 ideas had actually been accomplished and integrated into the elementary curriculum.

Spitze (1971, 1972) has conducted numerous workshops to promote the teaching of nutrition throughout the United States. Although her workshop participants have included a wide variety of professional occupations, few have been elementary teachers. Spitze shares her enthusiasm for increased emphasis on nutrition education and illustrates many teaching techniques that graduate assistants, student teachers and those attending her workshops have developed. Some titles for games and simulations which she suggested were: nutrition password, challenge, building blocks of food, tic-tac-toe, concentration, and nutrition dominoes.

Mackenzie (1972) reported that the University of Rhode Island conducted a nutrition education workshop attended by elementary teachers, as well as people in other professions. The why, what, and how of

nutrition education were emphasized. Nutrition education for kindergarteners was encouraged because later eating habits are hard to break.

The state of Massachusetts has an outstanding nutrition education program in its schools according to Callahan (1973). Nutrition education workshops for teachers are provided. The length and arrangements of the workshops vary for each community. Interest is stimulated through short promotional programs and the workshops are action-oriented. She further states that, "Implementation of nutrition education programs remains a problem. Training teachers to be allied professionals in teaching nutrition seems to be the most practical solution." Callahan believes that the major thrust should be to train teachers using inservice teacher training workshops because reaching the two million educators already in teaching positions should be given the top priority. Callahan (1973) contends that requiring a nutrition course at the undergraduate level to meet elementary certification is idealistic but unrealistic.

> The philosophy of a required course would be opposed for several reasons:
> 1. It is difficult to say that one course is applicable to all teachers.
> 2. A course may be desirable but not essential for all.
> 3. Institutions might not have the capability to implement the requirement (Callahan, 1973, p. 233).

Gray (1973) reports the Ohio Cooperative Extension Service Program, in Nutrition Education for Elementary Teachers, developed materials for five, two-hour training sessions. The series was designed to provide basic information on nutrition and food habits, to help teachers see ways to integrate nutrition into all subjects taught, and to seek ways to encourage students to participate in the school lunch program. A bibliography and a teaching guide for grades 1-6 was

developed. Teachers from 25 Ohio counties have been receptive and cooperative in taking the no credit course which has been in existence for two years (Gray, 1973, p. 2).

Jolley (1970) conducted in-service training and provided curriculum materials to Louisiana home economics teachers in an effort to improve eleventh- and twelfth-grade home economics pupils' food habits. She used the conceptual approach for organizing a unit for teaching. A significant improvement in pupils' food habits at the end of the unit with deterioration four weeks later was reported.

A study completed by the National Research Center to determine the effectiveness of the "Big Ideas", a type of nutrition education training for teachers, was determined by analyzing data collected from a selected group of school districts in the Los Angeles-Orange County area. The analysis confirmed that students who were taught by teachers trained to use "Big Ideas" had a 151 per cent increase in their ability to select balanced meals. This 151 per cent increase was compared to a 22 per cent increase for students whose teachers did not have the training (National Dairy Council, 1970).

A study was conducted by the Florida Department of Education to ascertain the educators' attitudes toward nutrition education in Florida. A structured questionnaire was mailed to 851 public school educators. The findings concluded that teachers and principals considered poor nutrition to be primarily a result of low family income. However, superintendents and food service supervisors expressed the view that increased income does not necessarily imply better nutritional practices. The teachers in the study favored requiring the teaching of nutrition education. Other findings indicated that there was no

apparent lack of administrative or teacher support of nutrition education programs in the Florida public school districts (O'Farrell and Kendrick, 1972).

A review of available literature reveals that there is an increasing emphasis being made to better prepare teachers for their role in teaching nutrition in the school. Emphasis on nutrition education for teachers is being stressed at the local, state, and national levels. A number of nutrition education learning experiences employing a wide variety of different methodologies are now being used to increase teacher competency in nutrition education. For example, college courses, inservice training sessions, workshops, telenet courses, fieldtrips, hand-outs and nutrition education kits are some of the techniques that have been used to increase teacher competency in the area of nutrition education.

There are many problems in implementing nutrition education effectively according to Sinacore and Harrison (1971). They aver that few teachers are adequately trained and sometimes previous negative conceptions about nutrition on the part of the teacher must be counteracted. Another problem in implementing nutrition for teachers is that the demands on their time and energy are already heavy. Yet a good nutrition program must begin with an informed, enthusiastic teacher according to Hill (1963). Making nutrition education programs convenient and economical often helps motivate teachers to participate in nutrition education. Many of today's teachers are reluctant to give up their time for any kind of meeting according to Callahan (1973). These facts should be considered when planning for nutrition education programs for teachers.

Characteristics of Kindergarten Children

Although it is true that there is no typical child, still there are certain characteristics which do seem to be predominant in the five-year-old group and which do give us an indication of what we can expect from many of these children. It is necessary to consider these characteristics when working with and teaching the five-year-old. Some of the general characteristics of kindergarten age children that should be understood are:

1. Children this age are alive, eager, noisy, and active; activity not highly social; like to go from one activity to another.

2. Have better control over large muscles than small ones; not ready for complicated skills and small muscle coordination.

3. Cooperative; want supervision; like to have approval; blame others for own misdeeds; decide quickly what they want.

4. Like to have things go smoothly; interested in immediate and realistic experiences; still in 'I' stage.

5. Play well with other children if groups are kept small; enjoys imaginative play in which each child plays his individual role.

6. Not much interested in physical differences between sexes; not as interested in own name or name of others--more important is his age or what he is doing; usually no concern about racial differences; have concrete, down to earth fears (Gesell and Ilg, 1960, p. 148).

It is also important to understand a few generalizations concerning food and nutrition in relation to kindergarten age children. Children, whether normal or retarded, are generally alike in their growing processes. They go through various stages in the five-to-seven-year-old age group. Food textures become important when baby teeth are wobbly and sore gums need coddling. Tough, lumpy and stringy

foods are often left uneaten. Many children have developed a dislike for certain foods by the age of three according to Vivian (1974).

Jenkins, Schacter, and Bauer (1953) described "physical-psychological portraits" of the characteristics of children as they grow from birth to adulthood. Those pertaining to food and nutrition for the five-year-old were:

> He feeds himself well, although he has definite likes and dislikes. Most five-year-olds prefer foods that are not mixed together. They do not enjoy creamed vegetables as much as raw vegetables, or puddings as much as fruit or jello for dessert. They still like to eat many things with their fingers, although they are becoming increasingly skillful with fork and spoon; some fives even try to use a knife (pp. 94-95).

Bettelheim (1973) says young children are wiggly and restless, their coordination is a problem and they will do much better eating finger foods. He further writes that eating and being fed are intimately connected with our deepest feelings. Eating and being fed, according to Bettelheim (1973, p. 60) are the most basic interactions between human beings, on which rest all later evaluations of ourself, of the world, and of our relationship to it. He suggests that the school day should be planned around the needs of children; starting with breakfast in the morning, a snack at midmorning, lunch at noon and another snack at the end of the school day. These meals should be eaten in small groups and with those who are supposed to educate not only their minds, but nurture their total personalities.

If teachers are to play a key role in educating children in the area of nutritional health Jenkins', Schacter's, and Bauer's statements (1953) should be understood. In their book the following topics pertaining to food and nutrition for young children were discussed:

breakfast was the child's poorest meal; a child will clean his plate if given small servings; children prefer meat, potatoes, raw vegetables, milk and fruit; young children tend to dislike cooked root vegetables, gravies, casseroles, and puddings; talking interferes with eating; and kindergarten age children need to be reminded about manners such as "please" and "thank you."

The kindergarten teachers can play a significant role in detecting, reporting, and eradicating the malnutrition they observe in their classroom, if they are familiar with the characteristics of a poorly nourished child. The characteristics of malnourished children bear a striking resemblance to a number of known characteristics of "disadvantaged children." Characteristics such as apathy, sickliness, irritability, and a reduced attention span are common for malnourished children according to Bakan (1971).

Sears, a Nutrition Education Consultant for the Oklahoma State Department of Health, wrote that a poorly nourished child exhibits characteristics which are as follows:

1. Dullness, listlessness, chronic fatigue and failure to concentrate
2. Hair that is dull and broken
3. Dark circles under eyes
4. Abnormal eye conditions
5. Spongy, bleeding gums
6. Pale, loose skin
7. Flabby muscles
8. Poor posture
9. Finicky, poor appetite
10. Poor digestion
11. Underweight or overweight
12. Drawn facial expression
13. Tendency toward irritability and nervousness (Oklahoma State Department of Health, 1973, p. 5).

Nutrition is related in some manner with every aspect of human health, growth, and development. The local, state and federal agencies,

community groups as well as others have a responsibility to inform and educate the public in matters related to nutrition and health (Schubert, 1970). Sears also recommends cooperation in solving health problems. She recommends that school administrators, teachers, the school nurse and community health services work together in improving the health of children in the classroom. She suggested that the teacher could do the following to aid in eradicating local health problems in their classroom.

1. When the teacher observes characteristics of poor nutrition, they should be noted on the child's health record and discussed with the nurse for follow-up.

2. The teacher should also be aware of behavioral difficulties that are related to poor nutrition. For example, the child who becomes ill in the late morning or has problems concentrating because he had had a poor breakfast or skipped this meal. Again, these deviations in behavior should be noted on the child's health record and the food intake of the child checked. The nurse may need to assist the teacher and do the follow-up with the family.

3. Height and weight records are of more value when they are placed on physical growth records. The elementary school child should make a gradual, but steady, increase in height and weight until puberty, when there is a growth spurt. There is a wide variation in the age at which the growth spurt occurs.

4. When a child fails to make his expected gain in height or weight or makes an excessive gain in weight, the food intake of a child should be checked. The school administrator and teachers may call upon the nurse to interpret the physical growth records. The nurse may be the person to do the follow-up with the family and physician when deviations are observed (Oklahoma State Department of Health, 1973, p. 5).

The literature in this section showed that there are certain general developmental characteristics which need to be considered when planning and developing educational materials for young children. When these characteristics are understood one knows what to expect from the

typical kindergarten child. The literature suggested that teachers of young children can play a significant role in detecting, reporting and eradicating local health problems in their classroom if they are familiar with characteristics of a poorly nourished child. The available literature reinforced the researcher's conviction that children are constantly learning about food from a very early age.

Nutrition Education Work With Young Children

The literature about nutrition education is voluminous with contributions from educators, nutritionalists, psychiatrists, and others. This literature contains substantial discussions about nutrition but no research studies concerned with teaching nutrition to kindergarten children were found.

Importance of Nutrition Education for Young Children

Conclusive evidence now indicates that malnutrition is most certainly a serious health problem to our population at all economic levels and must be recognized as such. The earlier in the child's life that nutrition education can be implemented in order to develop desirable food habits, the more likely the child will be able to realize his full potential for physical and mental growth. Education is one of the answers to solving malnutrition caused by ignorance. The schools have a most important role to play in the enlightenment of our youngest generation, with a carry-over potential to their elders. Ignorance, rumors, and misinformation can be eliminated with enlightenment and facts. Schubert (1970) wrote that "when you touch a child in matters

relating to his health, growth, and development you touch the parent and, ultimately, the community. Thus a healthier stronger nation should ultimately emerge" (p. 11).

Osman, Associate Professor in the Department of Health Sciences, Towson State College (1974) writes that children have been getting positive and negative kinds of nutrition education from birth. This may be verbal or nonverbal. Children's nutrition education continues when they are permitted to snack without supervision or guidance in food selection. He further states that many misconceptions about nutrition exist and one must unlearn the misinformation before learning the basic concepts.

Bettelheim (1973), an eminent psychiatrist, has worked with both normal and severely disturbed children. He writes that those who institute and administer nutrition programs do not create an emotional, a psychological climate that assures success. He believes food has to do with self-respect. "Eating while learning helps reduce children's anxieties, and permits often even non-learners of long standing to overcome their fears so they suddenly become able to achieve" (1972, p. 60).

Schottenstein (1974) gave valuable information about how children can influence the nutrition of their families. The five statements were:

1. The selection of foods for a meal is frequently made by children because of working mothers.
2. Family marketing choices often reflect child preferences.
3. TV commercials and promises of a toy inside the box reflect the child's insistence on this or that product.

4. Processed convenience foods save preparation time and make it easier for children to prepare their own meals via TV dinners or opening cans and packages.

5. Children can influence the quality of meals served at home if they know which foods are important for proper nutrition, and ask parents to get them (p. 52).

In summary, nutrition education for young children was considered important. The literature suggested that children who are informed about foods and nutrition can play a significant role in influencing the food habits of their families.

Suggested Nutrition Education Concepts and Objectives for Young Children

The following resume of literature provided insight into the nutrition concepts and objectives considered important for kindergarten children. Dobbins, a nutrition coordinator for the State Department of Education in Oklahoma City (1973), listed three concepts that were appropriate for grades kindergarten, first, and second. Her work in the area of nutrition education with young children was particularly helpful in this study. The concepts Dobbins suggested were: (1) food is good, (2) foods are friends, (3) eating good foods is fun. The objectives she listed for her nutrition program are:

1. Presented with a variety of foods, the student will be able to identify them and place them into the four groups.

2. The student will demonstrate an interest in the Basic 4 as a guide to choosing foods to eat.

3. Given a variety of experiences related to food choices and growing "big", the student will demonstrate an understanding that the food one eats is related to growth in children as well as in animals.

4. Provided with a background for an understanding of the food groups, the student will demonstrate a positive attitude toward all foods and display a willingness to try new ones.

5. The student will demonstrate pleasure in the social experiences of eating together with friends (Oklahoma State Department of Education, 1973, p. 1).

Ten nutrition concepts which were considered relevant at all grade levels in the schools in New York State were:

1. Nutrition is the use of food by the body.

2. Adequate nutrition is essential for physical health and for realization of growth potential.

3. The body needs nutrients rather than specific foods; there are many combinations of foods which can provide an adequate diet.

4. All people need the same nutrients.

5. Many factors determine what foods people eat.

6. Food is important to people because it fulfills social, psychological, and emotional needs as well as physical ones.

7. An individual's nutritional status is determined by an interaction of his nutrient intake with heredity, disease and environment.

8. Food is the most sensible source of nutrients for people under most circumstances.

9. The responsibility for nutritional health rests with the individual, the family, and the community.

10. Nutritional challenges change as our society changes and as knowledge accumulates (Sinacore and Harrison, 1971, p. 2287).

The Ohio Cooperative Extension Service Program developed a non-credit course for elementary teachers. The concepts for grades kindergarten through third grade that were stressed included (1) all food is good, (2) I like food, (3) some foods I have not yet learned to like (Gray, 1973, p. 2).

Mackenzie (1972) contends that the appropriate objectives for children in kindergarten through grade three should be concerned with the identification of food. Children should learn to name both familiar and unfamiliar foods and recognize them in their different forms. It is important that young children learn to accept new foods. The child can begin to learn how food is classified. Young children can learn eating is a social interaction as well as physically satisfying. The importance of each meal and the significance of snacks in the daily diet are other important learnings that should be emphasized. She further writes that children need to know something about the people who supply food and how food reaches their dinner table. Children should become conscious of different cultures and understand that food needs can be met in many ways (Mackenzie, 1972, p. 44).

Among the myriad of authors, Martin (1971), and Whipple, Strifel, and Brennand (1970) served as guides in the identification of the following concepts for the educator of the elementary school child in nutrition education:

1. Good foods in adequate amounts are needed throughout life.
2. Adequate amounts should be chosen from the four food groups.
3. Food habits must include a willingness to eat good food. Teachers exert a strong influence on the attitudes and habits of children, including those pertaining to food selection and eating.
4. The food which children eat involves many people and depends on many factors.

Cornell University developed curriculum guides and a program of teacher training in nutrition for grades kindergarten through 12 for the New York State Department of Education. At the primary level, the

learning experiences were planned to help the child develop positive attitudes toward food and eating; to accept a variety of foods; to recognize differences in how people eat; and to begin to understand the relationship of food to health and growth (Sipple, 1971, p. 20).

In summary the available literature revealed that there seemed to be some agreement among the authors as to appropriate nutrition understandings expected of kindergarten age children. The three major learning experiences, according to this resume of information, should help children develop concepts about identification of food and food groups, develop positive attitudes toward a wide variety of foods as well as display a willingness to try new ones, and to begin to understand the need for an adequate amount of good food in relation to growth and health.

Methodologies Used for Presenting Nutrition Education Materials to Young Children

Martin (1963) has written extensively concerning children's nutrition. She contends that the more closely nutrition experiences are related to real life situations the better they serve children as steps in learning. Martin believes active participation rather than merely observing contributes to greater learnings.

Objects which one can actually see, hear, feel, taste, and smell have the maximum impact on students (Reid, 1960). Mackenzie (1972) agrees that students need to have the chance to see, feel, hear, taste, and smell when studying nutrition. Tasting parties work well with young children according to this author.

Teachers need to consider interests of the particular children in their class as a key to the nutrition approach. Martin (1963) writes that children's interests in kindergarten and the lower grades center around their immediate environment such as playing house, helping mother cook, playing store, playing with pets, planting and watching things grow and going to the store.

Vaden (1974), Assistant Professor in the Department of Institutional Management at Kansas State University in Manhattan, writes that one needs to revitalize existing nutrition practices. "Effective nutrition education requires action on the part of the receiver. Educators should involve children in discovering the aesthetic pleasures to be derived from eating" (p. 46). She contends relevancy of nutrition becomes more readily apparent to children when it is an integrated rather than an isolated subject. Teaching nutrition by integrating it with other areas simplifies the teacher's problem of finding time to teach it.

Amidon and Flanders (1967, p. 19) stated that developing a curriculum by unifying concepts gave the curriculum flexibility, allowed for adjustments to fit the local situation, provided a basis for sequential learning and made the evaluation process easier. Vannier (1963) gave valuable suggestions for correlation and integration of nutrition education in the elementary curriculum in the areas of science, arithmetic, social studies, communicative arts, dramatic and art activities and physical education.

Elementary school teachers in the Greater Cleveland, Ohio, area have been integrating nutrition teaching for 18 years into many subjects already being taught in the elementary school curriculum. The

areas first integrated were social studies, mathematics, and art (Whipple, Strifel, and Brennand, 1970).

Educators need a variety of approaches to interpret nutrition information to students and they must also strive to motivate individuals to practice proper nutrition. In addition to knowledge, the educator must be involved in the understanding of economics, human relationships, and communication according to Ulrich (1970).

Feitshans (1973) writes that children and food are a natural combination. The recipe for scrambled eggs and vegetable salad to use with young children were illustrated in this article. She encouraged teachers to let children have a hand in making their own snacks and in serving juice and milk. Feitshars avers that high school students are excellent in planning food activities for preschoolers.

In summary, nutrition education experiences should center around children's interests and relate to real life situations. Children need to be active participants and not mere observers when studying nutrition. Nutrition education experiences which children can actually see, hear, feel, taste and smell are very beneficial in learning. The correlation and integration of nutrition within the existing curriculum was encouraged.

Nutrition Education Experiences Presently Being Provided for Young Children

The studies reviewed in the next section gave evidence that a limited amount of nutrition education is being provided for young children. This resumé of information provided insight into the progress that is being made by some individuals who have accepted the challenge

to provide nutrition education for children.

Project Total is a federally funded program which provides health and nutrition services for four elementary schools in the model cities area of Kansas City, Kansas. It is one of 12 projects in the United States. It serves 1,500 students, kindergarten through seventh grade. Valorie Brice, director, said, "When you come to school at 7 o'clock and see the steps already littered with potato chip bags and candy wrappers, you realize how early in life eating habits are formed." Many Americans are poorly nourished due to their nutrition knowledge and habit formation. Nutrition is correlated with achievement and good mental and physical health. The program stresses and encourages good eating habits and assists classroom teachers in integrating nutrition education in daily classroom activity. Project Total introduces kindergarten students to foods they have never had before. Food tasting is emphasized as well as other aspects of teaching nutrition using simple childlike terms (Miller, 1973, p. 12 A).

Nutrition ideas were taught to five-year-olds by the use of puppet shows during the Fall of 1970 in an Expanded Food and Nutrition Education program. The shows were a regular weekly feature of the six community-organized volunteer-staffed kindergartens in Idaho Falls, Idaho. The 67 five-year-olds passed on what they learned from the food puppets and created interest in nutrition at home; thus they paved the way for visits from nutrition aides (Wilson, Lawroski, and Wallace, 1972).

There has been a concentrated effort by the Children's Centers Division of the San Francisco Unified School District, to promote nutrition education. Nutrition education projects are planned within

the total educational framework for children 2 years of age through elementary school age. Delightful lessons in cooking and food preparation were discussed. These projects were used not merely for teaching nutrition, but as vehicles for other learnings such as language development (Juhas, 1969).

Diehm (1973), program director for a Dairy Council, writes that enjoyable and interesting learning activities are an essential part of nutrition education for young children. Dairy Day began in 1972 as a field trip for third grade children. Its purpose was to teach the concept, "Through extensive processing techniques, man has available a large variety of dairy foods which are vital to good nutrition" (p. 13). Well over 4,000 students attended the series of Dairy Days in the Evansville, Indiana area. Many interesting activities were provided, such as a food walk, mystery food box, and nutrition bingo. Butter was churned and tasted as well as cheese and ice cream. A kit of educational materials was also given to each participating teacher to use when they returned to their classroom.

Von Housen (1971) writes that nutrition training in Westside Community Schools, Omaha, comes under two general areas: (1) the development of sound eating habits through participation in the school lunch, and (2) knowledge of nutrition as a basis for food selection throughout life. It was the second area which was emphasized in the development of a nutrition education program titled "Food--Life Depends on It." The Food--Life Depends on It" series was compiled and piloted in three schools by three different teachers during the 1969-70 school term. Ardith Von Housen, nutritionist, also prepared the series of three units in nutrition education for fourth, fifth,

and sixth grade which was based on behavioral objectives. This series also includes concepts, learning experiences and performance ratings.

A five-month nutrition education program was introduced to 5th grade elementary, 7th grade junior high, and 10th grade senior high students in North Carolina. In the elementary schools nutrition was integrated into other courses, in particular reading, mathematics, history, art, music, and science. In the junior high nutrition was taught through the health course. The biology course was used in 10th grade to introduce the nutrition education program. The study's purpose was to determine the influence of nutrition education on acceptability and consumption of school-served food, dietary habits, and knowledge of nutrition. Evaluation by four methods showed encouraging signs of effectiveness at the fifth grade level (Head, 1974).

This section of the review of literature revealed no research studies concerned with teaching nutrition to kindergarten children. However, the authors of numerous articles considered nutrition education important for young children. The available literature disclosed that methodologies used to present nutrition education to young children should center around their interests and relate to real life situations. Nutrition education which involves children using their five senses contributed to the greatest learning. The correlation and integration of nutrition education with other curriculum areas was encouraged. A number of possible nutrition education concepts to be used with young children were suggested.

Three major types of learning experiences were suggested by several authors. These experiences should help children develop concepts about identification of foods and food groups, develop positive

attitudes toward a wide variety of foods as well as display a willingness to try new ones, and to begin to understand the need for an adequate amount of good food in relation to growth and health. Although the literature disclosed that a limited amount of nutrition education is being provided for young children, the educational experiences that are being provided for young children seem to be effective.

CHAPTER III

PROCEDURE AND METHOD

This chapter describes the procedure followed in the development and evaluation of a kindergarten nutrition guide based on opinions of Oklahoma kindergarten teachers toward nutrition education. The investigation was conducted in the following manner: (1) the researcher reviewed basic nutrition information and investigated innovative learning activities which the kindergarten teacher could use for the integration of nutrition education in the kindergarten curriculum; (2) the population of the study was defined; (3) the nutrition education survey instrument was developed, pilot tested, administered, and analyzed; (4) information from this instrument helped formulate the basis for development of a kindergarten nutrition guide; (5) a nutrition guide was developed by the researcher; (6) the nutrition guide was distributed to kindergarten teacher volunteers; (7) the nutrition guide evaluation instrument was developed, administered, and data tabulated and analyzed; and (8) recommendations were suggested for nutrition information that could be used to start early with a nutrition education program based on suggestions by the population. This chapter will give a detailed explanation of the procedure followed in each phase of the investigation.

Use of Review of Related Knowledge

A review of literature which is related to nutrition education for young children was made to form a sound basis in developing this study. The literature pertaining to nutrition surveys and conferences provided insights into the status of nutrition and nutrition problems of all segments of the United States population. This information provided a basis to support the need for corrective nutrition programs and for them to begin at an early age.

It was important to find out what is being done to increase teacher competency in nutrition education. The literature revealed several answers to this question. It appeared that a wide variety of different methodologies has been utilized. Examples include: (a) college courses, (b) inservice training sessions, (c) workshops, (d) talent courses, (e) fieldtrips, (f) hand-out nutrition materials, and (g) a nutrition education kit. The researcher used this literature as a basis for deciding to develop a nutrition guide that could be mailed to the teachers. This guide would inform the kindergarten teachers and provide them with nutrition resource materials. In addition it would provide a convenient and economical way for them to gain nutrition knowledge and the suggested nutrition experiences would aid them in incorporating nutrition in their curriculums.

The review of literature related to characteristics of young children aided the researcher in developing the educational materials for the nutrition guide. The insight of how young children learn provided the basis for the development of the concepts and learning activities. The literature suggested that teachers of young children

can play a significant role in detecting, reporting, and eradicating local health problems in their classroom if they are familiar with characteristics of a poorly nourished child. Jenkins' (1953) description of the characteristics of young children and food helped to formulate the philosophy that young children are constantly learning about food. Therefore, they would benefit from nutrition education at the kindergarten level.

No research studies concerned with teaching nutrition to kindergarten children were found in the literature; however, a few studies included early primary grades. The review did reveal information from other sources that was beneficial in developing materials for the kindergarten nutrition guide. One source that was especially helpful was the nutrition curriculum guides that were revealed that could be used as models in developing the nutrition education materials. Some methods of presenting nutrition education information for children were discovered. The available literature suggested that these learning situations should center around the young child's interests and relate to real life situations. In addition, nutrition education is more beneficial if the young child is an active participant, instead of an observer. Most of the authors agreed that nutrition education which is integrated with other curriculum areas is more meaningful to kindergarten children. Three major concepts seemed to be suggested by several authors. The researcher concluded that children should develop concepts about identification of foods and food groups, develop positive attitudes toward a wide variety of foods as well as display a willingness to try new ones, and begin to understand the need for an adequate amount of good food in relation to growth and health. These ideas were

used in formulating the five concepts and learning activities for the guide.

Selection of the Sample

Permission was secured from the president of the Oklahoma Kindergarten Teachers Association for the researcher to present a nutrition program at their annual meeting on October 18, 1973, at Apollo Elementary School, Oklahoma City, Oklahoma. The program was considered necessary to motivate teachers to take part in the research study. The program included cooking demonstrations using large picture recipe posters that kindergarten children could read. Stone soup and peanut butter cookies were prepared and could be sampled by the kindergarten teachers. Numerous illustrative materials showing how nutrition education could be coordinated and integrated into various curriculum areas were displayed. These included nutrition bingo, food mosaics, various food shaped puppets which were prepared from different mediums, poems, flannel board stories, films and filmstrips, and records. Children's books relating to food as well as cookbooks were displayed. In addition items suitable for tasting parties were shown. Free commercial materials as well as a copy of the draft of the nutrition guide were available for investigation. At this meeting it was possible for Oklahoma kindergarten teachers to volunteer to participate in the study and receive the nutrition guide by completing a four- by six-inch card (see Appendix D).

There were 250 persons who volunteered to participate in this study. Thirty-two of the total 250 persons who volunteered were eliminated prior to the study due to a failure to meet criteria which are

discussed in Chapter IV. The questionnaire was mailed to the remaining 218 kindergarten teachers who volunteered to participate in the study. Those kindergarten teachers who responded by mailing back a completed questionnaire comprised the sample.

Designing the Nutrition Education Survey Instrument

In order to determine what kindergarten teachers believed important in nutrition education and to ascertain what they considered as appropriate and effective nutrition concepts and activities, a data gathering instrument was necessary. The Nutrition Education Survey Instrument was developed by the researcher in order to ascertain kindergarten teachers' opinions about nutrition education at the kindergarten level. In addition the data were used to aid in developing a nutrition guide.

The instrument was a structured form of questionnaire (see Appendix A). A set of categories for the respondent to check was provided for 42 of the questions. Two additional questions were open-end to encourage free response. The first open-end question permitted the respondent to explain a reason for a previous reply. The second question requested topics that were covered in the nutrition guide which the teachers used.

The 42 questions for the Nutrition Education Survey Instrument were formulated in relation to seven objectives. The seven objectives were to determine: (1) background information about the sample; (2) kindergarten teachers' opinions concerning general nutrition information; (3) opinions of kindergarten teachers about their educational

preparation in the area of nutrition education; (4) opinions of kindergarten teachers toward teaching nutrition in schools; (5) the status of nutrition education in Oklahoma kindergarten classrooms; (6) opinions of how nutrition education should be presented; and (7) facts concerning nutrition education materials.

The instrument was constructed using Good's (1963) recommendations for questionnaire construction. His suggestions for questionnaire development are: (1) motivate the respondent to want to answer the questionnaire; (2) use only significant questions; (3) make responding as simple as possible for the subjects; (4) make the letter of explanation and the directions that accompany the questionnaire so that they enhance the purpose and clarity of the research; and (5) keep the questionnaire as short as possible out of consideration for the respondent's time.

The survey questionnaire was pre-tested with 12 kindergarten teachers who were not a part of the research sample. Revisions were made in order to add clarity, to simplify the content and to shorten the questionnaire. Some suggestions for rewording of statements were incorporated in the final revisions of the instrument. The finalized nutrition education survey questionnaire is found in Appendix A.

Surveying the Teachers Regarding Nutrition Education

The Nutrition Education Survey Evaluation Instrument was administered to collect data concerning kindergarten teachers' opinions about nutrition education at the kindergarten level. The data were collected in the fall of 1973 by mailing the structured questionnaire survey to

218 of the Oklahoma kindergarten teachers who had volunteered at the meeting mentioned previously (see Appendix A). A cover letter accompanying the questionnaire explained the purpose of the research and defined terms used in the questionnaire (see Appendix D). Participants were requested to return the completed questionnaire in the self-addressed stamped envelope which accompanied the questionnaire. Questionnaires were coded by number so that follow-up procedures could be employed. However, replies were kept anonymous.

Within a period of three weeks after mailing the instrument, another copy of the questionnaire and a self-addressed stamped envelope were sent to all Oklahoma kindergarten teachers from whom no response had been received. Returns were analyzed resulting in the elimination of seven questionnaires due to various reasons. A total of 157 useable questionnaires were returned. The data were used to aid in developing a kindergarten nutrition guide.

The data concerning the opinions of Oklahoma kindergarten teachers toward nutrition education at the kindergarten level were tabulated and are presented in Chapter IV for analysis. Percentages were used to analyze the data.

Designing the Kindergarten Nutrition Guide

In the development and production of the nutrition guide the researcher recognized the need to develop appropriate material to assist kindergarten children in learning good food habits. The researcher hoped to convey to those concerned with the health and well being of young children that it is not necessary to teach a separate unit on nutrition but that nutrition education can be coordinated and

integrated with the already existing curriculum. The teaching of nutrition does not require large allocations of time in an already crowded curriculum because nutrition cuts across many areas of learning such as health, mathematics, science, and social studies.

The salmon-colored guide contained a preface and three additional colored coded sections. The preface provided kindergarten teachers insight into the purpose of nutrition education and encouraged integrating nutrition education for kindergarten children. The organization of the guide was explained and suggestions for use of the materials provided were cited. The first section contained the five fundamental concepts, with those suggested activities that would help the student to grasp an understanding of the concepts. This section was printed on green paper. Section II was pink and included cooking experiences to carry out in order to further help the student understand the five concepts. The last part of the guide, section III, was printed on yellow paper. It contained a list of children's books related to foods, free and inexpensive teaching materials, films and filmstrips, and a basic puppet pattern.

In constructing the nutrition guide it was desirable to first select the concepts for section I. The researcher sought to accomplish this by using the following procedure. First the investigator examined nutrition curriculum guides, nutrition texts, early childhood texts, articles from scientific journals as well as health and nutrition pamphlets. Materials from these were used as guides in selecting concepts appropriate for the kindergarten level.

Data from the nutrition education survey served as a basis for development of the nutrition guide. The following data were considered

by the researcher in constructing and organizing the nutrition guide. The Oklahoma kindergarten teachers believed that the school should play an important role in providing nutrition education to young children and that kindergarten teachers should teach nutrition to kindergarten children. Teachers said few curriculum guides were available and the nutrition topics were sparse. The method by which teachers desired to learn more about nutrition was to have nutrition education materials mailed to them. Every teacher desired resource materials and reported a lack of appropriate nutrition education resources as the most important reason for not teaching nutrition. The majority of teachers believes that nutrition education should be integrated into the already existing program.

Four professionals in early childhood education were first consulted as to the reasonableness of the concepts for use with children of this age. Then a specialist in the Department of Food, Nutrition and Institutional Administration was asked to evaluate the accuracy and appropriateness of the concepts that would be presented. The responses from the professionals in early childhood and the nutrition specialist included a number of helpful suggestions. Revisions were made to eliminate several concepts as well as change their sequence. Some suggestions for rewording of the concepts were incorporated into the final concepts for the guide. The five concepts were then selected to be used in the nutrition guide developed by the investigator for this research. Concept I, all foods have names, must be included if one wants to be sure children recognize and know names of foods. It is impossible to teach children nutrition concepts if they cannot identify and name the food that the teacher is talking about. Concept II, we

like some foods more than others, encourages the student to demonstrate a positive attitude toward all foods and display a willingness to try new ones. It is fun to eat and enjoy a wide variety of foods was included because a variety of foods will help to insure a balanced diet for the child and will result in establishment of a foundation for good food habits. Concept IV, food is good for us, was emphasized since foods are essential for people to live. It was hoped that children would learn that we need to eat food for various reasons: to live, to grow, to keep healthy and well, and to get energy for work and play. The understanding from Concept V, eating breakfast is important and can be fun, was that a variety of food served at intervals throughout the day is important. The breakfast meal is perhaps the most important. We need to guide the child and provide varied experiences so that he learns that eating breakfast is important and establishes this good eating habit for life.

Learning experiences which would help the child to understand each of the five concepts were developed. At the primary level, the learning experiences sought to help the child develop positive attitudes toward food and eating; accept a variety of foods; recognize differences in how and what people eat; and begin to understand the relationship of food to health and growth.

A wide variety of kinds of learning experiences which would provide many opportunities for children to learn about food and nutrition was desired. This would allow for flexibility in curriculum planning and allow for adjustments to fit the local situation. Seven kinds of learning activities were provided for each concept: (1) language arts and verbal development; (2) dramatic or role play; (3) tasting and

cooking experiences; (4) music and songs; (5) creative arts and crafts; (6) manipulative or motor skill activities; and (7) visual aids and resource persons.

In the development of the learning experiences steps similar to those followed in developing the concepts were followed. First, the investigator examined curriculum guides, nutrition texts, early childhood materials, articles from scientific journals and health and nutrition pamphlets for suggestions to use in selecting appropriate learning activities for boys and girls in kindergarten. Data analyzed from the nutrition education survey were also utilized when selecting the wide variety of learning activities to be suggested in the guide. Again four professionals in early childhood education were consulted as to the appropriateness of these learning activities for a kindergarten curriculum. Then the specialist in the Department of Food, Nutrition, and Institutional Administration evaluated the learning activities that would be presented according to the value she felt the activities would have in developing the concepts.

Few revisions of the learning activities by the professionals were suggested. They were supportive of the philosophy that one needs to develop the concepts using a number of different methods and approaches.

At this point, a panel of three kindergarten teachers, not used in the study proper, sorted the learning experiences into the seven categories. Learning experiences that had less than 60 per cent agreement from this group were rewritten for clarity. These learning activities were then compiled so that every concept had at least one activity from each of the seven categories. However, some concepts had additional learning activities listed that the researcher felt were valuable in

developing the concept.

Section II, the cooking activity section, was constructed so that it included a wide variety of recipes. Some cooking experiences were built to be very simple requiring little equipment. Others were chosen which were more complicated and required more elaborate equipment to complete. Many of the cooking experiences are interchangeable or can be used for more than one concept if the teacher so desired. Concept I, all foods have names, has six suggested recipes. Actually, any food activity can be used to have children learn names of foods and increase their verbal learnings. The cooking experiences for Concept II, we like some foods more than others, was designed to encourage the student to demonstrate a positive attitude toward all foods and display a willingness to try new ones. Some of the recipes were for foods that were familiar and others were for foods unfamiliar to children. Ten cooking activities were selected for Concept III, it is fun to learn to eat a wide variety of foods. This variety of cooking experiences with many different kinds of foods will help students grasp the concept that many kinds and combinations of food can lead to a well-balanced diet. The cooking experiences suggested for Concept IV, food is good for us, suggested that all foods are good and that food is essential for us to live. Concept V, eating breakfast is important and can be fun, has been included to help students understand that many kinds of foods can be selected for breakfast. Good breakfast menus need not be restricted to the traditional ones. Eating breakfast can be fun when foods may be selected from the wide variety of recipes. The eleven suggested cooking activities offer a variety of familiar and unusual foods for breakfast. A complete listing of cooking experiences is found in Appendix B.

Section III of the guide contained a list of children's books related to foods, free and inexpensive teaching materials, films and filmstrips, and a basic puppet pattern. Food shapes could easily be attached to the basic puppet pattern making it readily available for use. See Appendix B for the complete nutrition guide.

Distribution of the Nutrition Guide

The Guide for Nutrition Education for Young Children, developed by the researcher, was mailed in January, 1974, to each of the 157 Oklahoma kindergarten teachers who had completed the nutrition survey. A letter accompanying the guide thanked the respondents for helping with the nutrition research. It was suggested that they look over the nutrition guide and order resource materials needed to carry out the activities. The suggestion was made that they mix nutrition activities liberally into their curriculum so that they could help children develop good eating habits and attitudes for life. The reader is referred to Appendix D for the letter that accompanied the nutrition guide.

Evaluating the Nutrition Guide

The evaluation instrument for the nutrition guide was developed in order to gather kindergarten teachers' judgments about the guide. The instrument entitled Nutrition Guide Evaluation Instrument (see Appendix C) was organized in two parts. Part I solicited the opinions of teachers as to the over-all construction and appropriateness of the nutrition materials that had been developed in the guide for kindergarten age children. To determine their opinions kindergarten teachers were asked to rate the first 14 statements using four choices:

strongly agree with the statement, agree with the statement, disagree with the statement, and strongly disagree with the statement. Three additional statements which had been asked on the first survey questionnaire served to compare before and after attitudes. There were six additional questions which sought to determine kindergarten teachers' use of the resource materials in the guide. Teachers were asked to check the columns: had used, plan to use, or do not plan to use. They were also requested to indicate the approximate number of resources they had used.

Part II of the instrument was developed by the researcher for collecting kindergarten teachers' evaluations of a random selection of learning experiences taken from the guide. The teachers were asked to evaluate the learning experiences that had been used in their kindergarten program according to the value they felt each learning experience had in developing the concept. Choices for rating the learning experiences were excellent, good, fair, or omit experience. Space was provided for teachers to explain the reason why they felt the experiences should be omitted from the guide.

Two open-end subjective statements were also included on this instrument. The first of these two questions permitted teachers to suggest outstanding or successful nutrition education experiences. The final question was designed to get suggestions for improvements or revisions of the nutrition guide.

The data from the evaluation of the nutrition guide were collected in May, 1974, by mailing an evaluation questionnaire for the nutrition guide to each of the 157 kindergarten teachers who had received the nutrition guide. A follow-up letter (Appendix D), another copy of the

questionnaire, and a self-addressed stamped envelope were mailed to encourage better questionnaire return three weeks later.

The percentages used to analyze the data from Parts I and II of the Nutrition Guide Evaluation Instrument, as well as all the other tabulations of content, are presented and discussed in Chapter IV.

CHAPTER IV

PRESENTATION AND RESULTS OF DATA

The purpose of Chapter IV is to describe the sample and present the findings revealed by the evaluation of the nutrition education survey instrument, Appendix A, and the nutrition guide evaluation instrument, Appendix C. The results of both evaluations are given in this chapter.

Description of the Sample

The sample for this study was made up of volunteers engaged in teaching kindergarten children during the academic year 1973-1974, in the state of Oklahoma. There were 250 persons who attended the Oklahoma Kindergarten Teachers Association annual meeting at Apollo Elementary School, Putnam City School District in Oklahoma City, Oklahoma, who volunteered to participate in this study. There were 32 persons excluded from the study because of the following reasons: (1) twelve persons did not volunteer to evaluate the nutrition guide, (2) sixteen respondents were not kindergarten teachers in Oklahoma; they were either graduate assistants or teachers in the Child Development Laboratory school at Oklahoma State University, (3) four respondents returned the volunteer card and reported they did not want to participate in the survey or evaluation of the guide.

The final sample of the study was made up of 218 of the 250 Oklahoma kindergarten teachers engaged in teaching kindergarten children. The nutrition survey questionnaire was mailed to these 218 kindergarten teachers. There were 130 questionnaires returned. Next a follow-up letter resulted in 34 additional responses. Thus, a total of 164 questionnaires or 75.2 per cent of the questionnaires were returned.

Only 157 of the 164 kindergarten teachers were selected to receive the nutrition guide because seven of the 164 respondents did not meet the criteria for the study. Three of these seven respondents were first grade teachers and one was a student teacher. The remaining three respondents reported they lacked enough time to respond adequately.

In May, 1974, the 157 kindergarten teachers were mailed the evaluation instrument for the nutrition guide. Thirty-six of the evaluation guide questionnaires were returned. Follow-up letters were sent to those kindergarten teachers who had not returned questionnaires, and 65 additional questionnaires were returned. A total of 101 or 64.3 per cent of the nutrition guide evaluation questionnaires were received. Six additional questionnaires were received after the data were analyzed.

Analysis of Nutrition Education Survey

First the responses to questions in the nutrition education survey instrument were tabulated and analyzed. The questionnaire which was mailed to 218 kindergarten teachers consisted of seven parts. Part I consisted of 7 questions related to the personal background of the

Oklahoma kindergarten teachers. The four items in Part II dealt with general nutrition information. Part III consisted of questions related to opinions about educational preparation in the area of nutrition. The five items of Part IV were designed to ascertain attitudes of kindergarten teachers toward teaching nutrition in schools. Items in Part V sought to determine the status of nutrition education in Oklahoma kindergarten classrooms. Part VI consisted of seven questions designed to determine attitudes about how nutrition education should be presented. The six questions for Part VII secured data about nutrition education materials.

Personal Data Related to the Oklahoma Kindergarten Teacher

Number of Years Teaching

The data presented in Table I show the total number of years teaching experience of Oklahoma kindergarten teachers in this sample. There were 68, or 41.5 per cent, of the 164 teachers who had taught less than five years, while 43, or 26.2 per cent, had 5 to 10 years of teaching experience. Twenty-three, or 14.0 per cent, had been teaching for 11-15 years; 7, or 4.3 per cent, reported teaching between 16-20 years; and 11, or 6.7 per cent, had been teaching for 21-34 years. Twelve persons, or 7.3 per cent, omitted information concerning years teaching. From these data, it was concluded that over two-thirds of the respondents had been teaching less than ten years.

TABLE I

COMPOSITION OF SAMPLE ACCORDING TO TOTAL NUMBER OF YEARS TEACHING EXPERIENCE (N=164)

Number of Years Teaching Experience	Frequency	Per Cent
Teaching 5 years or less	68	41.5
Teaching 6-10 years	43	26.2
Teaching 11-15 years	23	14.0
Teaching 16-20 years	7	4.3
Teaching 21-34 years	11	6.7
No information	12	7.3

Number of Years Teaching at Kindergarten Level

An analysis of the number of years experience teaching at the kindergarten level, presented in Table II, revealed that 92, or 56.1 per cent, had been teaching at the kindergarten level five years or less; 39, or 23.8 per cent, had been teaching kindergarten 6-10 years; 18, or 11 per cent, had been teaching for 11-15 years; 1, or 0.6 per cent, had been teaching 16-20 years; 2, or 1.2 per cent, had taught kindergarten 21-34 years. Twelve, or 7.3 per cent, failed to complete information concerning number of years teaching at the kindergarten level. It was concluded that the majority of the respondents had five years or less experience teaching kindergarten.

TABLE II

COMPOSITION OF SAMPLE ACCORDING TO NUMBER OF YEARS TEACHING AT KINDERGARTEN LEVEL (N=164)

Number of Years Experience Teaching at Kindergarten Level	Frequency	Per Cent
Teaching 5 years or less	92	56.1
Teaching 6-10 years	39	23.8
Teaching 11-15 years	18	11.0
Teaching 16-20 years	1	0.6
Teaching 21-34 years	2	1.2
No information	12	7.3

Age of Respondents

The data concerning the age of the kindergarten teachers revealed that 78, or 47.6 per cent, were 21-35 years of age; 53, or 32.3 per cent, were 36-50 years of age; and 24, or 14.6 per cent, were 51-65 years of age. Nine, or 5.5 per cent, failed to supply an answer for this question. Nearly half of the sample were under age 35.

Age of Children in Home

When questioned regarding the number of children in their home under age six, it was found that only 27, or 16.5 per cent, had children under age six, and 128, or 78.0 per cent, did not have young children. Nine people, or 5.5 per cent, did not supply information.

It was concluded from these data that the majority of teachers in this study are not mothers of children under age six.

Highest Degree Held

When questioned regarding the highest degree held, it was found that only four, or 2.5 per cent, had a high school diploma as a terminal degree; 117, or 71.3 per cent, had a Bachelor of Science or a Bachelor of Arts degree; 34, or 20.7 per cent, had a Master of Science or Master of Arts degree; nine persons, or 5.5 per cent, failed to respond to the question. It was concluded that the majority of the respondents making up the sample of this study were teaching with a Bachelor of Science or Bachelor of Arts degree.

Teacher-Pupil Ratio

When the educators were questioned as to the size of their kindergarten classes, a wide range in class size was found, as is shown in Table III. Class size for morning sessions ranged from 6 to 50. Afternoon session class size varied from 10 to 51. Fifty-one, or 31.1 per cent, of the morning teachers reported they had 20 students or less; 38, or 23.2 per cent, had 21 to 25 students per class; 44, or 26.8 per cent, had 26-30 students; 17, or 10.4 per cent, had 31-50 students. Fourteen respondents, or 8.5 per cent, did not give information pertaining to class size.

The majority of the afternoon class sections tended to be smaller in size than morning sessions. Thirty-three, or 20.1 per cent, reported class size of less than 20 students; 50, or 30.5 per cent, had class size of 21-25 students per class; 27, or 16.5 per cent, had 26-30

students. There were 13, or 7.9 per cent, with a class size of 31-50 students. Fourteen, or 8.5 per cent, of the respondents did not complete this question. In addition there were 27, or 16.5 per cent, of the schools which did not have afternoon kindergarten sessions. It was concluded that more morning kindergarten classes were large (26 or more pupils) than were afternoon classes.

TABLE III

THE NUMBER OF STUDENTS IN KINDERGARTEN CLASSES
(N=164)

Kindergarten Class Size	Number of Morning Sections		Number of Afternoon Sections		Total Number of Sections	
	Freq.	%	Freq.	%	Freq.	%
Class size 6-20	51	31.1	33	20.1	84	51.2
Class size 21-25	38	23.2	50	30.5	88	53.7
Class size 26-30	44	26.8	27	16.5	71	43.3
Class size 31-51	17	10.4	13	7.9	30	18.3
No kindergarten class	0	0.0	27	16.5	27	16.5
No response	14	8.5	14	8.5	28	17.1

Area of Educational Specialization

The number of major areas of educational specialization reported by the Oklahoma kindergarten teachers in this sample indicated a wide

range of training. A list of all areas of specialization is presented in Table IV. Seventy-six, or 46.4 per cent, of the respondents indicated an elementary education specialization. The elementary and early childhood combination were reported by 35, or 21.4 per cent, of the respondents. A large number of the respondents reported combinations of either elementary or early childhood in their areas of specialization. In summary, the characteristic which seems to be most common to this sample was that elementary education training appeared in the background of the largest number of the Oklahoma kindergarten teachers. There were only two teachers who had not had some elementary or early childhood educational specialization. These two educators had specialized in home economics.

Opinions About General Nutrition Information

The kindergarten teacher's opinions about general nutrition information were examined. Data provided beliefs about: (a) children's food habits, (b) the income level most susceptible to poor food habits, (c) whether or not the term "nutrition education" was negative in connotation, and (d) which sex of kindergarten student needs nutrition education.

There were 88, or 53.6 per cent, of the sample who considered poor food habits to be a problem of kindergarten children in their community; 65, or 39.6 per cent, did not believe kindergarten children in their community had poor food habits. Eleven respondents, or 6.7 per cent, did not complete the question. From these data it was concluded that slightly over one-half of the respondents considered poor food habits a problem of kindergarten children in their community.

TABLE IV

COMPOSITION OF SAMPLE ACCORDING TO
EDUCATIONAL SPECIALIZATION
(N=164)

Educational Specialization	Frequency	Per Cent
Elementary Education	76	46.4
Elementary and Early Childhood	35	21.4
Elementary, Early Childhood and Home Economics	8	4.9
Elementary, Secondary and Early Childhood	3	1.8
Elementary and Secondary	3	1.8
Elementary, Secondary, Home Economics	2	1.2
Elementary and Home Economics	7	4.3
Elementary, Secondary, Early Childhood and Home Economics	2	1.2
Early Childhood	8	4.9
Secondary and Early Childhood	1	.6
Early Childhood and Home Economics	2	1.2
Home Economics	2	1.2
Secondary, Early Childhood, Home Economics	2	1.2
No response	13	7.9

Respondents' opinions varied concerning what income level was the most susceptible to poor food habits. Table V presents teachers' responses for each income level. Notice that respondents could check more than one response. There were 67, or 40.8 per cent, of the 164 respondents who considered 0 to $2,999 to be the income level that was the most susceptible to poor food habits. Only 41 of the 164 respondents, or 25.0 per cent, considered poor food habits to be a problem at all income levels. This supports Livingston's (1971) findings that the American public needs to be educated to the fact that poor food habits are a problem at all economic levels in the United States.

TABLE V

ANALYSIS OF OPINIONS RELATING POOR FOOD HABITS TO INCOME LEVEL (N=164)

Income Level in Relation to Poor Food Habits	*Frequency	Per Cent
0 - $2,999 per year	67	40.8
$ 3,000- $6,999 per year	44	26.8
$ 7,000-$10,999 per year	14	8.5
$11,000- and above per year	10	6.1
None of the above	1	0.6
All of the above	41	25.0
No information	10	6.1

*Respondents could check more than one response.

There were 87 respondents, or 53.0 per cent, of the sample who felt that the term "nutrition education" was positive in connotation; 70 respondents, or 42.7 per cent, responded that the term "nutrition education" was negative in connotation; 7, or 4.3 per cent, of the respondents omitted giving this information. It was concluded that slightly over one-half of the respondents believed the term "nutrition education" was not negative in connotation.

When kindergarten teachers were questioned as to whether kindergarten females or males need nutrition education most, it was found that 142 respondents, or 86.6 per cent, responded that both sexes needed nutrition education; 6, or 3.7 per cent, responded females need nutrition education most; 1, or .6 per cent, responded that males need nutrition education most. Of the total sample there were 15, or 9.1 per cent, respondents who omitted giving this information. It was concluded that the vast majority of respondents realized that nutrition education is equally important for both sexes.

In summary, kindergarten teachers believed that kindergarten children in their community had poor food habits. However, poor food habits were not considered to be a problem at all economic levels. These teachers did not believe the term "nutrition education" was negative in connotation. They considered nutrition education important for both boys and girls.

Opinions About Educational Preparation in the Area of Nutrition

The background and preparation of teachers in nutrition education was also important to know in this study. It was necessary to know

when preparing the nutrition guide if kindergarten teachers felt they had sufficient knowledge to teach nutrition and needed help only in planning for appropriate concepts and learning activities at the kindergarten level. The analysis of these questions provided valuable insight into this area.

Feeling of Competency To Teach Nutrition

Of the Oklahoma kindergarten teachers in this sample, 119, or 72.6 per cent, responded that they had sufficient nutrition knowledge to teach nutrition to their kindergarten children. There were 36, or 21.9 per cent, of the teachers who reported that they did not have sufficient nutrition knowledge to teach nutrition to their kindergarten children. Information was not available for 9, or 5.5 per cent, of the respondents. From these data nearly three-fourths of the teachers felt that they had enough nutrition knowledge to incorporate nutrition into their curriculum.

Source and Amount of Nutrition Education

The information presented in Table VI presents the source and the amount of nutrition education in the background of teachers as reported by the respondents. When responding to this question it was possible for teachers to check more than one source of nutrition education in their background. Therefore, the responses included more than one entry for each subject. The three areas mentioned most frequently by the sample as providing a considerable amount of nutrition education background were high school home economics, college nutrition courses, and junior high home economics. Junior high home economics, high

TABLE VI

SOURCE AND AMOUNT OF NUTRITION EDUCATION REPORTED BY RESPONDENTS
(N=164)

Source of Nutrition Education	Amount of Nutrition Education Received									
	Considerable Amount		Moderate Amount		Very Little		None		No Response	
	*Freq.	Per Cent	*Freq.	Per Cent	*Freq.	Per Cent	*Freq.	Per Cent	*Freq.	Per Cent
Junior high home economics	20	12.2	63	38.4	22	13.4	22	13.4	41	25.0
High school home economics	33	20.1	59	36.1	14	8.5	28	17.0	33	20.1
4-H work	12	7.3	28	17.1	12	7.3	39	23.8	74	45.1
Extension work	7	4.2	4	2.4	4	2.4	54	32.9	94	57.3
College nutrition courses	29	17.7	35	21.3	19	11.9	31	18.9	56	39.6
Other college courses	10	6.1	28	17.1	35	21.3	24	14.6	66	40.2
Mass media	14	8.5	38	23.2	37	22.6	12	7.3	68	41.5
Work experience	19	11.6	54	32.9	26	15.8	9	5.5	63	38.4
Inservice training	4	2.4	11	6.7	14	8.5	47	28.7	91	55.5
Workshops	7	4.3	17	10.4	17	10.4	36	21.9	84	51.2

*Respondents could mark more than one source.

school home economics, and work experience were the sources which the most teachers believed had provided moderate amounts of nutrition education. The sources mentioned most often as providing very little nutrition education for the teachers in this sample were mass media, other college course, and work experience. More respondents reported that they had not received nutrition education from extension work than they reported for other sources. Inservice training, 4-H work, and workshops were other sources from which many teachers had not had the opportunity to receive nutrition information.

The information presented tends to suggest that nutrition education in junior high and high school home economics was a characteristic in the background of many kindergarten teachers in this sample. It appears that very little nutrition education information was obtained from the sources of extension, inservice training, and 4-H for these teachers.

Another later question attempted to determine if kindergarten teachers' lack of preparation in the area of nutrition education led to ineffective programs. The data revealed that 109, or 66.5 per cent, of the respondents agreed or strongly agreed with the statement. Forty-three, or 26.2 per cent, disagreed or strongly disagreed. Twelve, or 7.3 per cent, of the respondents failed to respond to the question. It was concluded that two-thirds of the respondents believed that teachers' lack of preparation in the area of nutrition education limited the effectiveness of their nutrition education programs.

It was interesting to know that three-fourths of the teachers felt that they had enough nutrition knowledge to teach nutrition, yet two-thirds of the teachers believed that the lack of preparation in the

area of nutrition education might lead to ineffective programs. This seemed to indicate that teachers need assistance in obtaining methods, techniques, and appropriate learning activities that should be used in teaching nutrition.

Suggestions for Additional Teacher Nutrition Training

Suggestions concerning methods of additional training in nutrition education for teachers were solicited in the questionnaire. The teachers were to rate the methods of desired training according to their first through fifth choices. However, there were thirteen teachers who marked only their first choice and failed to rank the other methods for additional training. Only 88 teachers responded to all five of the choices for additional training. This sample of teachers reported that their most common first and second choice of receiving additional nutrition training was to have nutrition education materials mailed to them. Their third choice was to have inservice workshops throughout a semester. A summer, two-week short college course was their fourth choice, while the fifth method to receive nutrition information was by taking a university extension course. A complete tabulation of the data is shown in Table VII. These data support Hill's (1963) statement that teachers want nutrition education programs that are convenient and economical for them to participate in. These findings led the researcher to develop a nutrition guide to mail to kindergarten teachers so that they would have a convenient resource to use in their curriculum planning for nutrition education.

TABLE VII

SUGGESTED METHODS FOR ADDITIONAL TEACHER TRAINING IN NUTRITION EDUCATION
(N=88)

	Desired Choice for Nutrition Education Training									
	1st Choice		2nd Choice		3rd Choice		4th Choice		5th Choice	
Method of Training	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Inservice workshops throughout a semester	15	17.0	17	19.3	28	31.8	17	19.4	11	12.5
Summer two week short college course	14	15.9	7	8.0	18	20.5	30	34.1	19	21.6
University extension courses	0	.0	7	8.0	16	18.1	26	29.5	39	44.3
All day workshop devoted to this topic	29	33.0	26	29.5	16	18.1	9	10.2	8	9.1
Nutrition education resource materials mailed to you	30	34.1	31	35.2	10	11.5	6	6.8	11	12.5

Nutrition Education Course

Required for Certification

There were 106 of the 164 teachers in this sample, or 70.8 per cent, who reported that the lack of teacher preparation in nutrition education would be eliminated if prospective kindergarten teachers were required to take an undergraduate course in teaching nutrition education. Thirty-eight teachers, or 23.1 per cent, reported that they disagreed with the statement. Ten, or 6.1 percent, of the teachers failed to complete the information for this question. In summary, it appeared that nearly three-fourths of the teachers in this sample agreed that prospective kindergarten teachers should be required to take an undergraduate course in teaching nutrition education; thus they would be better prepared to teach the subject.

This finding was in disagreement with Callahan (1973) who contended that requiring a nutrition course at the undergraduate level for elementary certification was unrealistic. However, the literature supports the belief that teachers should increase their competency in nutrition education by using a variety of convenient methods but not necessarily a required undergraduate course.

Attitudes of Sample Toward Teaching Nutrition in the School

The responses of the kindergarten teachers also provided data concerning opinions about teaching nutrition in Oklahoma schools. One question sought to determine if kindergarten teachers believed that the inclusion of nutrition education in the classroom was the most

desirable method for preventing poor food habits. In this sample 133 of the 164 kindergarten teachers, or 81.1 per cent, believed this was the best method for preventing poor food habits. Only 24, or 14.6 per cent, disagreed with the statement. Seven of the respondents, or 4.3 per cent, omitted giving this information. These data suggested that the kindergarten teachers in this sample believed that the school should play a significant role in providing nutrition education to kindergarten students to help children learn good food habits.

Reasons and comments concerning why nutrition education in the school curriculum was not the most desirable method were solicited in an open-end question. A summary of the comments of the 24 respondents favoring an educational method other than schools suggested: (1) the parents are the ones who need to be educated; (2) a parent education program would be more desirable; preferably, a specialist in the home instructing parents through actual experiences in buying habits; (3) children have little control over what is purchased or served in the home; and (4) the most desirable method would be to educate the mother and help her improve her cooking habits. It appeared that the respondents answering this question believed that a parent nutrition education program would be the most desirable method for preventing poor food habits since young children rely greatly on what their parents provide.

When the kindergarten educators were questioned as to whether the State Legislature should mandate the teaching of nutrition at the kindergarten level, it was found that 68, or 41.5 per cent, agreed; 85, or 51.8 per cent, did not believe in requiring the teaching of nutrition at the kindergarten level. Data were not available for 11, or 6.7 per cent, of the questionnaires. It was concluded that slightly over

one-half of the respondents did not favor the State Legislature requiring the teaching of nutrition at the kindergarten level.

Seventy-seven of the respondents, or 46.9 per cent, favored evaluation of nutrition education as a part of the schools' state accreditation. Likewise there were 77 teachers, or 46.9 per cent, of the sample who disagreed; 10 respondents, or 6.2 per cent, failed to supply data. The data from this question revealed that the respondents were undecided about including an evaluation of nutrition education as a part of state accreditation.

In an attempt to determine who should teach nutrition at the kindergarten through 3rd grade level, it was found that 141 of the 164 respondents, or 85.9 per cent, reported "classroom teacher"; 29, or 12.2 per cent, listed "nutrition education specialist"; 10, or 6.1 per cent, reported "home economics teacher"; 2, or 1.2 per cent, of the respondents reported "others" should teach nutrition. Other people who were suggested to teach nutrition included the parents and the school nurse. Nine, or 5.5 per cent, of the respondents failed to provide information for this question. The data in Table VIII show who should teach nutrition at the elementary school level as reported by this sample.

It was concluded from these data that Oklahoma kindergarten teachers believed that the classroom teacher was the one who should teach nutrition to kindergarten children. Teachers also reported that parents and the school nurse should also help teach nutrition to young children.

TABLE VIII

DESIGNATED PREFERENCE FOR PERSON TO TEACH NUTRITION AT THE ELEMENTARY SCHOOL LEVEL (N=164)

Profession of Person	*Frequency	Per Cent
Classroom teacher	141	85.9
Home economics teacher	10	6.1
Nutrition education specialist	20	12.2
Other, parents, nurse	2	1.2
No response	9	5.5

*Respondents could choose more than one person.

Status of Nutrition Education in Oklahoma Kindergartens

It was important to gather information concerning the status of nutrition education in Oklahoma kindergartens. The respondents were asked to indicate the extent that nutrition education was taught in their kindergarten classes. Seventeen, or 10.4 per cent, of the kindergarten teachers reported that they taught a considerable amount of nutrition. Eighty-four, or 51.2 per cent, of the respondents reported teaching a moderate amount; 47, or 28.7 per cent, reported teaching little; only four, or 2.4 per cent, reported they did not teach nutrition to their kindergarten classes; while 12, or 7.3 per cent, of the respondents did not complete the information. It was concluded that

about two-thirds of the respondents of this study felt that they were teaching a moderate amount or more of nutrition in their kindergarten classes.

The data were analyzed for the three questions 9, 10, and 12 (see Appendix A), which sought to determine the method that should be used at the kindergarten level to teach nutrition. The questions sought to determine if nutrition information should be integrated with other subjects, if it should be taught as a separate unit, and the method which kindergarten teachers believed would be the most valuable in teaching nutrition to kindergarten children. There were 130 teachers, or 79.3 per cent, who responded that nutrition education was more valuable if integrated in the curriculum. The data from the second question revealed 125 teachers, or 76.2 per cent, disagreed that nutrition information was of more value if taught as a separate unit. The analysis of item 12 showed 179 respondents, 66.5 per cent, of this sample planned or had taught nutrition by integrating it with other subjects. It was concluded that the kindergarten teachers responding in this sample believed that nutrition information is more valuable if taught as part of an integrated kindergarten curriculum rather than as a separate unit. This finding was in agreement with Vannier (1963), Amidon (1967), and Vaden (1974).

The question, "Should nutrition education be taught in the kindergarten classroom?" was examined. The data revealed that 147, or 89.7 per cent, of the respondents reported that nutrition education should be taught; while 4 respondents, or 2.4 per cent, did not favor teaching nutrition at the kindergarten level. Information concerning this question was not available for 13, or 7.9 per cent, of the respondents.

It may be generalized that the kindergarten teachers in this sample favored teaching nutrition in the kindergarten classroom. This supported O'Farrell's (1971) findings that educators support school programs of nutrition education.

Curriculum Areas for Integrating Nutrition

A summary was made of the areas of the kindergarten curriculum in which nutrition education could be integrated and these date are indicated in Table IX. There were 857 responses for areas of the curriculum in which nutrition could be integrated. There were 139 of the 164 respondents, or 84.8 per cent, who believed that nutrition could be integrated in the health curriculum area. The second greatest number of respondents, 125, or 76.2 per cent, believed nutrition could be integrated when teaching cooking. There were 118 of the 164, or 71.9 per cent, respondents who reported that nutrition and science could be integrated. Music was the curriculum area which the fewest respondents, 79, or 48.2 per cent, believed nutrition could be integrated. It appeared that the three areas of the kindergarten curriculum in which the respondents believed nutrition could most readily be integrated were health, cooking, and science. The respondents reported they knew 857 areas of the curriculum in which nutrition could be integrated; however, they felt competent in integrating it in 764 areas.

The data presented in Table IX also showed the eight areas in which kindergarten teachers felt competent to integrate nutrition education. There were 132 of the 164, or 80.5 per cent, Oklahoma kindergarten teachers who felt competent to integrate nutrition education in the health area. The next greatest number of respondents, 123, or

TABLE IX

COMPARISON OF AREAS OF THE KINDERGARTEN CURRICULUM IN WHICH NUTRITION EDUCATION COULD BE INTEGRATED AND AREAS WHERE TEACHERS FELT COMPETENT TO CARRY OUT INTEGRATION

Curriculum Areas for Integrating Nutrition	Areas in Which 164 Teachers Believed Nutrition Education Could Be Integrated		Areas in Which 164 Teachers Felt Competent to Integrate Nutrition Education	
	*Freq.	Per Cent	*Freq.	Per Cent
Science	118	71.9	98	59.7
Language Arts	97	59.1	89	54.3
Health	139	84.8	132	80.5
Mathematics	93	56.7	78	47.6
Cooking	125	76.2	123	75.0
Social Science	88	53.7	75	45.7
Music	79	48.2	74	45.1
Arts and Crafts	89	54.3	79	48.2
Other	12	7.3	2	1.2
No response	17	10.4	14	8.5

*Respondents could choose more than one area.

75.0 per cent, reported that they could integrate nutrition and cooking experiences. There were 98, or 59.7 per cent, of the respondents who felt competent to integrate nutrition education with the science area. These areas were followed by language arts, arts and crafts, mathematics, social science, and music. The data indicated that kindergarten teachers felt more competent as well as favored teaching nutrition by coordinating and integrating it into the curriculum areas of health, cooking, and science.

The reader will not be provided data in a table, but analysis of responses showed that 147, or 89.6 per cent, of the 164 kindergarten teachers said they would be more willing to teach nutrition if they were provided with resource materials; only one, or .6 per cent, said they would not; 16 respondents, or 9.9 per cent, failed to complete this question on the questionnaire. These data tend to support the belief that resource materials in the form of a guide would aid kindergarten teachers in teaching nutrition education.

Every respondent who answered the question, or 150 of the 164, reported that they would like to receive nutrition resource materials appropriate for the kindergarten level. Fourteen persons, 8.5 per cent, gave no information to this question. In summary, nutrition education resources were desired by each respondent and teachers reported they would teach more nutrition education if these resource materials were available.

Attitudes of Sample About Method of Presenting Nutrition Information to Kindergarten Students

A summary was made of respondents' attitudes about the philosophy and methods that should be used in presenting nutrition information to young children. A complete listing of attitudes is shown in Table X. It can be generalized that respondents believed (1) nutrition education in the kindergarten classroom can be undertaken using simple terminology; (2) changes in food habits are easier to achieve if activities are related to the interests of kindergarten children; (3) good eating habits are more readily achieved when children are young; (4) kindergarten children develop better food habits if exposed to a wide variety of foods; (5) the development of favorable attitudes toward food is more important in developing good food habits than learning nutrition facts; (6) knowledge of nutrition facts is the best way to bring about a change in food habits; and (7) kindergarten children who know the basic four food groups will not necessarily select adequate diets. Since nutrition resource materials were to be developed by the researcher, this information was used to ascertain if respondents' attitudes were similar to findings in the review of literature. The respondents' attitudes about methods of presenting nutrition to kindergarten students seemed to be in agreement with other authors' beliefs.

Opinions About Nutrition Education Materials

It was desirable to know whether or not nutrition guides were used in planning for nutrition education in the kindergarten curriculum.

TABLE X

ATTITUDES OF SAMPLE ABOUT METHOD OF PRESENTING NUTRITION INFORMATION TO KINDERGARTEN STUDENTS
(N=164)

Attitudes About Nutrition Education	Agree	%	Disagree	%	No Response	%
Nutrition education in kindergarten can be undertaken using simple terminology concerning food and nutrition.	152	92.8	2	1.2	10	6.0
Changes in food habits are easier to achieve if activities are related to the interests of kindergarten children.	148	90.3	0	.0	16	9.7
Good eating habits are more readily achieved when children are young.	144	87.8	6	3.7	14	8.5
Kindergarten children develop better food habits if exposed to a wide variety of foods.	141	86.0	9	5.5	14	8.5
The developing of favorable attitudes toward food is more important than learning nutrition facts.	126	76.8	24	14.7	14	8.5
Knowledge of nutrition facts is the best way to bring about a change in food habits.	97	59.2	52	31.7	15	9.1
Kindergarten children who know the basic four food groups will not necessarily select adequate diets.	50	30.5	97	59.1	17	10.4

When the data were analyzed it was found that curriculum guides were used to help plan in teaching nutrition by only 22 teachers, or 13.4 per cent, of the 164 educators in this sample. Seven different guides were listed as providing some help in curriculum planning for nutrition. The Economy Kindergarten Series, Dairy Council Materials, and the Tulsa Kindergarten Curriculum Guide were the three resources mentioned by respondents. The teachers wrote that ideas and topics for nutrition were sparse in the guides. The topics in the guides which were mentioned as being used to teach nutrition the most often by the sample were as follows: (1) four basic food groups, (2) health habits at school and health and safety at home, and (3) farm units emphasizing where food comes from. Two respondents listed proper dental care and good eating habits as topics they selected to teach. It may be concluded that approximately one-fifth of these teachers had used a guide to help them in teaching nutrition. Oklahoma kindergarten teachers felt that the guides used did not contain adequate resource materials and information related directly to food habits and nutrition.

Teachers were asked if nutrition information in the guides was adequate to teach nutrition. Sixty-two respondents, or 37.8 per cent, reported that nutrition information in the curriculum guides was not adequate. Only 14, or 8.5 per cent, reported that the information was adequate. There were 88 respondents, or 53.7 per cent, who did not respond to this question. The vast majority of the teachers reported that current curriculum guides did not include adequate nutrition information.

It was desirable to know where kindergarten teachers secured information pertaining to nutrition to present in their classes.

Commercial food companies and professional magazines were the two sources which the teachers reported were used the most frequently to obtain nutrition information. Inservice training was reported as the source used the least often by teachers to obtain nutrition information. The nutrition information sources are shown in Table XI. After analyzing responses to item 28 on the questionnaire, it was concluded that there were a number of sources used by the sample to obtain nutrition education information. However, nearly three-fourths of the sample reported that they had received information about nutrition from commercial food companies.

TABLE XI

SOURCES KINDERGARTEN TEACHERS USE TO SECURE NUTRITION EDUCATION INFORMATION (N=164)

Sources for Information	*Frequency	Per Cent
Commercial food companies	121	73.8
Professional magazines	78	47.6
Non-professional magazines	40	24.4
Television	21	12.8
Newspapers	27	16.4
College courses	63	38.4
Nutrition workshops	25	15.2
Inservice training in your school	11	6.7
No information	20	12.1

*Teachers could check more than one source.

The kindergarten teachers relied on obtaining considerable nutrition information from commercial companies such as the Dairy Council and the Cereal Institute. In addition, 118 of the 164 respondents, or 72.6 per cent, had obtained resource materials from the Dairy Council, the Cereal Institute, or other organizations. Twenty-nine, or 17.7 per cent, had not secured materials, while 16, or 9.7 per cent, gave no response to this question. The data showed nearly three-fourths of the respondents had secured materials from private organizations such as the Cereal Institute.

Summary of Findings of Survey Data

The typical kindergarten teacher was a college graduate, and in most instances, was the holder of a Bachelor of Science or a Bachelor of Arts degree, had specialized in elementary education, and did not have children under age six in the home. Slightly over two-thirds of the kindergarten teachers that composed the sample for this study had been in the teaching profession for ten years or less. Over one-half of the teachers were under age 35, and had taught the area of kindergarten for less than five years. They taught both a morning and afternoon kindergarten session, and generally had a class size of 21-25 students.

The majority of the teachers considered poor food habits to be a problem of kindergarten children in their community; however, only one-fourth of the teachers reported that poor food habits were a problem at all economic levels, from below 2,999 to above 11,000 dollars per year. The Oklahoma kindergarten teachers believed that both boys and girls need nutrition education and that the term "nutrition education" was

not negative in connotation to kindergarten children.

The classroom teacher was the person designated by the kindergarten teachers in this sample as the one who should teach nutrition to kindergarten children. Three-fourths of the respondents reported that they thought they had sufficient knowledge about nutrition to include it in the kindergarten curriculum, yet two-thirds of the respondents considered that the lack of preparation in the area of nutrition education limited their nutrition program. The data revealed teachers believed that their nutrition background was limited. Junior high and high school home economics courses, as well as college nutrition courses, had most often provided the nutrition education background for these Oklahoma kindergarten teachers. The educators' first choice for additional training in the area of nutrition education was that nutrition education resource materials should be provided by mailing materials to participants. Three-fourths of the respondents suggested prospective kindergarten teachers should be required to take a course in nutrition education to prevent this lack of preparation in the nutrition area.

The majority of the Oklahoma kindergarten teachers believed that the school should play a significant role in providing nutrition education; however, slightly over half of the respondents did not favor the State Legislature requiring the teaching of nutrition at the kindergarten level. They were undecided if nutrition education programs should be included as part of a school's state accreditation.

The majority of the teachers favored providing nutrition education to kindergarten children and two-thirds of the teachers felt they had already taught a moderate amount or more of nutrition information

during the year. Integrating nutrition education with different curriculum areas instead of teaching it as a separate unit was reported as the method that should be employed at the kindergarten level. The teachers felt more competent in integrating nutrition education in the three areas of health, cooking, and science than in other areas. Every respondent desired to receive nutrition education resource materials and stated they would be more willing to teach nutrition if they were provided with resource materials.

Attitudes of the respondents about the methods of presenting nutrition information can be generalized as the following: (1) nutrition education in the kindergarten classroom can be undertaken using simple terminology, (2) changes in food habits are easier to achieve if activities are related to the interests of kindergarten children, (3) good eating habits are more readily achieved when children are young, (4) kindergarten children develop better food habits if exposed to a wide variety of foods, (5) the development of favorable attitudes toward food is more important than learning nutrition facts, (6) knowledge of nutrition facts is the best way to bring about a change in food habits, and (7) kindergarten children who know the basic four food groups will not necessarily select adequate diets.

Curriculum guides were used by less than one-fifth of the teachers, and the majority of the teachers reported that curriculum guides in the area of nutrition were scarce and that the nutrition topics in these were few and inadequate. Commercial food companies and professional magazines provided the sources which the majority of the kindergarten teachers used to obtain nutrition information to use in curriculum planning. The majority of the educators had obtained or had

reviewed free nutrition resource materials from private organizations and companies.

Oklahoma Kindergarten Teachers' Evaluation of the Nutrition Guide

In May, 1974, the 157 kindergarten teachers were mailed an instrument with which to evaluate the nutrition guide. One hundred and one, or 64.3 per cent, of the kindergarten teachers returned the nutrition guide evaluation questionnaire which consisted of two parts. Part I ascertained opinions about the guide and uses of the resource materials in the guide. In part II the kindergarten teachers were asked to evaluate the activities that they had used. They were instructed to rate the learning experiences according to the value they believed each activity had in teaching the concept from excellent, to good, fair or omit the experience. Finally, the two open-end subjective statements were analyzed. The first question requested teachers to suggest outstanding and successful aspects they had used in teaching nutrition. The second question sought suggestions for improvement of the nutrition guide.

Evaluation of Part I of the Guide, Over-All Construction and Use of Resource Materials

A list of the thirteen statements requesting general opinion responses for the over-all construction and use of resource materials is presented in Table XII. Every kindergarten teacher agreed that the concepts were stated in simple child-like terms and were within the grasp of kindergarten children. There was unanimous agreement that the

activities planned for each concept were closely related to the concepts and that they represented a variety of curriculum areas and teaching methods. These activities were reported as within the grasp of kindergarten children.

TABLE XII

EVALUATION OF OVER-ALL CONSTRUCTION AND USE OF NUTRITION GUIDE RESOURCE MATERIALS BY OKLAHOMA KINDERGARTEN TEACHERS (N=101)

	Agree		Disagree		No Response	
Items, Number 1-13	Freq.	%	Freq.	%	Freq.	%
Concepts and/or skills are clearly and accurately stated in simple, child-like terms.	93	92.1	0	0.0	8	7.9
Concepts are within the grasp of kindergarten children.	94	93.1	0	0.0	7	6.9
Activities planned under each concept are closely related to the concept.	92	91.1	0	0.0	9	9.0
Activities are within the grasp of kindergarten children.	93	92.1	0	0.0	8	7.9
A sufficient number and variety of activities are planned which indicates a child needs to approach a new idea repetitively through different avenues.	91	90.1	3	3.0	7	6.9
A sufficient number of learning activities for the concepts for a range of intellectual levels.	93	92.1	1	1.0	7	6.9
Activities represent a variety of curriculum areas and teaching methods.	92	91.1	0	0.0	9	9.0

TABLE XII (Continued)

Items, Number 1-13	Agree		Disagree		No Response	
	Freq.	%	Freq.	%	Freq.	%
Enough detail had been included about each activity indicating how to use it.	92	91.1	1	1.0	8	7.9
Activities related to each concept involve child in personal, direct, sensory-motor way.	91	90.1	2	2.0	8	7.9
The color-coded sections of the guide aid the teacher in locating materials.	88	87.1	0	0	13	12.9
Foods, staples, and equipment needed for tasting parties are available or obtainable for your class.	56	55.4	37	36.6	8	7.9
Field trips to a fruit store and a dairy farm would be possible for class.	44	43.6	49	48.6	8	7.9
The nutrition guide or similar material should be recommended to other teachers.	91	90.1	2	2.0	8	7.9

There was one respondent who thought a greater number of learning activities for each concept could be provided for a wider range of intellectual levels. Another respondent desired that even more details be provided for each activity to aid the teacher in using the activity. Two respondents disagreed that the suggested activities involved the child in a personal, direct, sensory-motor way. There were three persons who did not think that there were a sufficient number and

variety of activities planned for each concept. Every kindergarten teacher agreed that the color-coded sections of the nutrition guide aided the teacher in quickly locating materials. Only two respondents said they would not recommend the nutrition guide or similar material to other kindergarten teachers for their use; however, no reasons or explanation was provided.

Items 11 and 12 were the two statements with which the most respondents disagreed (see Table XII or Appendix A). The question for item 11 dealt with whether or not food, staples, and equipment needed for tasting parties were available or obtainable in the kindergarten classroom. Fifty-six of the 101 teachers, or 55.4 per cent, agreed that foods, staples, and equipment needed for tasting parties were available or obtainable in their kindergarten classroom. There were 37, or 36.6 per cent, who reported these items were not available. Eight persons, or 7.9 per cent, did not complete answers to this question.

The 12th question sought to determine if it would be possible for kindergarten students to take a field trip to a fruit store and a dairy farm. Participation in field trips to a fruit store and dairy farm were possible for 44, or 43.6 per cent, of the 101 kindergarten teachers in this sample. Forty-nine teachers, or 48.6 per cent, reported these field trips would not be possible. Responses were not available for eight, or 7.9 per cent, of the teachers.

It was concluded that this sample of teachers would recommend this guide to fellow kindergarten teachers; that the concepts and activities were sufficient and within the grasp of kindergarten children. It would be impossible for nearly half of the kindergarten teachers to

participate in the field trips suggested in the guide. In addition, slightly over one-half of the teachers have foods, staples, and equipment that are needed to carry out tasting parties for teaching nutrition.

Evaluation of Attitudes Before and After Using the Guide

The researcher was interested to learn if calling respondents' attention to nutrition education by mailing them a guide would change respondents' attitudes about poor food habits of children in their classroom. There were 53.7 per cent of the sample who considered poor food habits a problem before receiving the guide and 53.4 per cent of the sample who considered poor food habits a problem after using and evaluating the guide. It seemed to appear from these data that very little change occurred in kindergarten teachers' attitudes about poor food habits after using and evaluating the guide.

When a comparison was made of the number of places which teachers knew about to secure nutrition education materials before and after receiving the guide, it was found that the majority of teachers reported they knew 0-5 sources to secure nutrition materials both before and after receiving the nutrition guide. There were four categories of sources to check: 0-5, 6-10, 11-15, and 16 or more. However, increases occurred in three of the other four categories. Table XIII shows increases in the number of respondents who knew 6-10, 11-15, and 16 or more sources from which to secure nutrition knowledge. Only 8 teachers, or 4.9 per cent, knew more than 6 sources to secure nutrition information before receiving the guide; while 23 teachers, or 22.8 per cent,

reported knowledge of 6 sources or more after receiving the nutrition guide. This indicates that approximately 20 per cent of the teachers did increase their knowledge of the number of sources to secure nutrition education.

TABLE XIII

COMPARISON OF KNOWLEDGE OF SOURCES OF NUTRITION EDUCATION MATERIALS BEFORE AND AFTER RECEIVING NUTRITION GUIDE

	Before Guide		After Guide	
Number of Sources	Freq.	%	Freq.	%
0 - 5	146	89.9	66	65.3
6 - 10	7	4.3	15	14.8
11 - 15	0	0.0	3	3.0
16 or more	1	.6	5	5.0
No information	9	5.5	12	11.9
Total Sample	164	100.0	101	100.0

Evaluation of Why Nutrition Had Not Been Taught

Eight possible reasons why nutrition education had not been taught in the respondents' classrooms were checked before and after using the nutrition guide. The reader may refer to Table XIV for a complete listing of the reasons why nutrition had not been taught before and

TABLE XIV

SUMMARY OF OBSTACLES WHICH PREVENTED KINDERGARTEN TEACHERS FROM TEACHING NUTRITION BEFORE AND AFTER RECEIVING THE NUTRITION GUIDE

Reason for Omission of Nutrition Education	Before Guide (N=164)		After Guide (N=101)	
	*Freq.	%	*Freq.	%
Not enough resource materials for kindergarten level	29	15.1	11	4.7
Curriculum is too full with other things	18	9.4	35	14.9
Teacher has no preparation in the subject	11	5.7	2	.9
Class is too large	8	4.2	30	12.8
Insufficient knowledge about nutrition	6	3.1	3	1.3
Other	5	2.6	129	54.9
Children are not interested in the subject	1	.5	0	0.0
Teacher does not feel comfortable teaching nutrition education	1	.5	1	.4
Do not feel nutrition education is important	0	0.0	0	0.0
No response	113	58.9	24	10.2
Total Sample Responses	191	100.0	235	100.1

*Teachers could check more than one response.

after receiving the nutrition guide in the kindergarten classrooms. Twenty-nine of the 164 respondents, or 15.1 per cent, reported not enough nutrition resource materials appropriate for the kindergarten level as their first reason for not teaching nutrition before receiving the nutrition guide. The second reason reported by 18 of the 164 respondents, or 9.4 per cent, was that the curriculum was too full with other things. It was found that teachers showed the greatest change in the reason related to the category "other." Teachers offered more responses for the category "other" after using the guide. Examples of reasons suggested in the "other" category for not teaching nutrition after using the guide were the lack of funds, equipment, as well as the management of children during cooking experiences.

The item "do not feel nutrition is important" was not checked by a single respondent before or after using the guide. Although kindergarten teachers in this sample reported nutrition education was important, they checked each of the other seven reasons why nutrition education had been omitted from their curriculum. The lack of nutrition education resource materials seemed to be the number one reason before the guide while lack of funds, and equipment, and the management of children were primary reasons given after receiving the guide. The second reason given, both before and after receiving the guide, was that the curriculum was too full. This finding seemed to indicate teachers had not absorbed the idea of "integration" of nutrition information.

Evaluation of the Resource and Recipe Section of the Guide

When a summary of the use of the resource and recipe section of

the guide was undertaken, in Table XV, it was found that children's books had been used the most. A total of 71 out of a possible 260 responses, or 27.3 per cent, were recorded for children's books. The resource recipes were a close second with 70 responses or 26.9 per cent. These resources were followed by free and inexpensive materials and films and filmstrips which received 25.8 per cent and 20.0 per cent, respectively.

Forty-six kindergarten teachers, or 28.6 per cent, reported planning to use films and filmstrips in the future. Free and inexpensive materials received the next highest number of responses, 41, or 25.4 per cent. Thirty-seven teachers, or 23.0 per cent, planned to use both of the resources, children's books and recipes.

A summary was made of items teachers did not plan to use. It was found that 17 teachers of the 34, or 50.0 per cent, did not plan to use films and filmstrips. The recipe category received 7 responses, or 20.6 per cent; while the children's books received 6 responses, or 17.6 per cent. Four teachers, or 11.8 per cent, did not plan to use the free or inexpensive materials from the resource section. Teachers reported that films and filmstrips were unavailable or that funds were not available for securing this type of resource materials. Perhaps the teachers in this sample did not realize that these materials were free or very inexpensive to borrow.

It would then appear that the Oklahoma kindergarten teachers had made the greatest use of the resource children's books followed closely by recipes for cooking experiences to aid them in teaching nutrition. Films and filmstrips were the teaching techniques teachers planned to use the most in the future. The films and filmstrips likewise received

TABLE XV

ANALYSIS OF USE OF THE RESOURCE AND RECIPE SECTION OF THE NUTRITION GUIDE

Item	*Have Used						*Plan to Use						*Do Not Plan to Use		No Response	
	0-5	6-10	11-15	16+	Total	%	0-5	6-10	11-15	16+	Total	%	Freq.	%	Freq.	%
Film or Filmstrips	44	8	0	0	52	20.0	31	14	1	0	46	28.6	17	50.0	8	21.6
Children's Books	37	30	4	0	71	27.3	15	11	9	2	37	23.0	6	17.6	11	29.8
Free or Inexpensive Materials	54	11	2	0	67	25.8	21	15	4	1	41	25.4	4	11.8	10	27.0
Recipes	55	13	2	0	70	26.9	24	9	2	2	37	23.0	7	20.6	8	21.6
Total Responses	190	62	8	0	260	100.0	91	49	16	5	161	100.0	34	100.0	37	100.0

*Teachers could check more than one category for this question.

the greatest number of responses from teachers stating that they did not plan to use them in the future.

Nearly identical ratings were reported by the Oklahoma kindergarten teachers in this sample as to the use of the song "ABCD Energy" and the puppet pattern. The responses for the use of the song and puppet pattern are shown in Table XVI. Fifteen, out of a possible 101, had used the song; while 16, or 15.8 per cent, had made use of the puppet pattern. Identical numbers of people, 60 of 101, or 59.4 per cent, planned to use the materials in the future. Seventeen persons, or 16.8 per cent, did not plan to use the songs; while 16 persons, or 15.8 per cent, stated they did not plan to use the puppet pattern. Information was not available for 9, or 9.0 per cent, of the respondents. It was concluded that approximately three-fourths of the kindergarten teachers had used or planned to use the song "ABCD Energy" and the puppet pattern. However, approximately 15 per cent of the respondents did not plan to use either of these resource materials.

TABLE XVI

ANALYSIS OF USE OF THE SONG AND PUPPET PATTERN BY THE TOTAL GROUP OF OKLAHOMA KINDERGARTEN TEACHERS (N=101)

	Have Used		Plan to Use		Do Not Plan to Use		No Response	
Item	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Song "ABCD Energy"	15	14.8	60	59.4	17	16.8	9	9.0
Puppet Pattern	16	15.8	60	59.4	16	15.8	9	9.0

Evaluation of the Learning Activities Suggested in the Nutrition Guide

Analysis of Total Responses for Each of the Seven Types of Learning Activities

It was desirable to find out which type of learning experience the teachers felt had the greatest value in helping them teach the five concepts. The responses were totaled for each of the seven types of learning activities. The total responses for that specific activity were then added for each of the five concepts. A complete tabulation of data concerning the seven types of learning activities is presented in Table XVII.

The "food related" type of activities received the greatest number of excellent responses. It received 200 of the possible 998 responses, or 20.0 per cent. The "dramatic play" activities were second with 157, or 15.8 per cent; while "manipulative-motor skill" activities were third with 152 responses, or 15.2 per cent. The "visual aid" type activities received the fewest excellent responses, 98, or 9.8 per cent. Other total responses for the seven types of activities are presented in Table XVII.

The total good responses for each of the activities revealed that the "language arts" type of activities received the most good responses, 144 of a possible 809, or 17.9 per cent. "Dramatic play" type activities received 129, or 16.0 per cent, and the "manipulative-motor skill" type activities was third with 116, or 14.3 per cent, of the responses.

TABLE XVII

ANALYSIS OF TOTAL RESPONSES OF EACH OF THE SEVEN TYPES OF LEARNING ACTIVITIES

Type of Learning Activity	Excellent		Good		Excellent & Good Totals		Fair		Omit		Had Not Used	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
a. Language Arts Activities	143	14.3	144	17.9	287	15.9	20	9.1	4	8.0	194	13.4
b. Dramatic Play Type	157	15.8	129	16.0	286	15.8	29	13.2	1	2.0	189	13.0
c. Food Related	200	20.0	112	13.9	312	17.3	14	6.4	10	20.0	169	11.7
d. Music or Songs	130	13.0	107	13.2	237	13.1	42	19.2	5	10.0	221	15.3
e. Creative Art Activities	118	11.9	93	11.4	211	11.7	64	29.2	9	18.0	221	15.3
f. Visual Aids	98	9.8	108	13.3	206	11.4	19	8.7	19	38.0	251	17.3
g. Manipulative-Motor Skills	152	15.2	116	14.3	268	14.8	31	14.2	2	4.0	204	14.0
Totals	998		809		1807		219		50		1449	

When the fair responses were totaled for each activity for all concepts, it was found that "creative arts" type of activities received 64 of 219, or 29.2 per cent, of the fair responses. There were 42 responses, or 19.2 per cent, for the "music and song" category of activities. The "manipulative-motor skill" type of activities were third receiving 31, or 14.2 per cent, of the responses.

The data were further analyzed to determine which type of learning activities received the greatest number of omit responses. It was found that each of the seven types of learning activities received at least one omit response. Nineteen of the total 50 omit responses, or 38.0 per cent, were for the "visual aid" type of activity; although 206 excellent and good responses had also been reported for this type of activity. Ten responses, or 20.0 per cent, were for omitting the "food related" type of activities and 9 responses, or 18.0 per cent, were for omitting the "creative arts" type of activities.

The totals for the type of activity that had not been used revealed that the "visual aid" category of activities received the most responses. It received 251 out of a possible 1449 responses, or 17.3 per cent, for activities that had not been used by teachers. The "music and songs" and the "creative arts" type of activities were next with 221, or 15.3 per cent of the responses. The "food related" activities, "dramatic play," "language arts" and "manipulative-motor skill" activities seemed to be the type of activities that were used most by teachers in this sample. Refer to Table XVII for a complete listing of responses for activities that had not been used.

In conclusion the data seemed to indicate that kindergarten teachers in this sample believed that the "food related," "language arts"

and the "dramatic play" type of activities were the ones which had the greatest value in helping them teach nutrition concepts. Likewise, they had also used more of the "food related," "dramatic play," and "language arts" type of activities. The "visual aid" type of activities were used least and received the most omit responses. In addition it was the type of activity that received the fewest total excellent and good responses.

Analysis of Individual Activities Under Each Type of Learning Activity

Language Art Activities. When use of five randomly selected language arts type of activities were compared the "telling time about breakfast," suggested for Concept V, was the activity which received the greatest number of excellent responses, 39 of 143, or 27.2 per cent. Green Eggs and Ham for Concept II received the most good responses, 34 of 144, or 23.6 per cent. In addition it had been used the most of any of these activities.

The flannel story "Smile Ralph Smile" received 20 of 143 responses or 14.0 per cent, which was the fewest number of excellent responses and 21, or 14.6 per cent, of the good responses. It was also the language arts activity which had not been used the greatest number of times, 55 or 28.3 per cent. There were only four omit responses for the language arts groups of activities. See Table XVIII for a complete listing of responses for language arts activities.

In conclusion, the preferred language art activity seemed to be the "telling time about a breakfast a child could fix" for Concept V. This activity was followed closely with the activity read Green Eggs

TABLE XVIII

ANALYSIS OF LANGUAGE ARTS ACTIVITIES
FOR THE FIVE CONCEPTS

Concepts	Activities	Excellent		Good		Fair		Omit		Had Not Used	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I, a	Read Blueberries for Sal	27	18.9	26	18.0	4	20.0	1	25.0	43	22.2
II, a	Read Green Eggs and Ham	35	24.5	34	23.6	6	30.0	0	0.0	26	13.4
III, a	Flannel Story, "Smile Ralph Smile"	20	14.0	21	14.6	3	15.0	2	50.0	55	28.3
IV, a	Childcraft, "Food to Grow On"	22	15.4	33	23.0	5	25.0	1	25.0	40	20.6
V, a	Telling Time, "Breakfast I can fix"	30	27.2	30	20.8	2	10.0	0	0.0	30	15.5
	Totals	143		144		20		4		194	

and Ham for Concept II. These two activities were also the two language arts activities which had been used the most out of this group of activities. The flannel story "Smile Ralph Smile" for Concept III was considered to be of the least value of the language arts activities.

Dramatic Play Activities. When teachers rated five of the dramatic play type of activities it was found that the activity for Concept I "playing store" received the greatest number of excellent responses. "Playing store" received 50 out of the total 157 excellent responses, or 31.8 per cent, and likewise was the activity which had been used the most often. The "pretend grocery store" activity for Concept III received the greatest number of good responses, 31 of a possible 129, or 24.0 per cent, and was the activity which had been used the second greatest number of times. The dramatic art activity for Concept II, "pirate puppets discover new taste treats," seemed to be the activity that teachers had not used. This dramatic art activity received 51 of 189 possible responses, or 26.9 per cent; it received the fewest number of excellent, 17 of 157 or 10.8 per cent; as well as 23 of 129, or 17.8 per cent, good responses. It was the only activity of the dramatic play group to receive an omit response. A listing of the dramatic play activity responses is shown in Table XIX.

It may be concluded that the dramatic play activities dealing with "playing store" Concept I and "pretend grocery store" for Concept III were considered favorites in this group of activities. The "puppet activities" for Concept II and Concept V received the lowest ratings for this type of activity and were the two activities from this group which had received the most had not used responses.

TABLE XIX

ANALYSIS OF DRAMATIC PLAY TYPE ACTIVITIES
FOR THE FIVE CONCEPTS

Concepts	Activities	Excellent		Food		Fair		Omit		Had Not Used	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I, b	Play store	50	31.8	25	19.4	4	13.8	0	0.0	22	11.6
II, b	Pirate puppets discover new taste treats	17	10.8	23	17.8	9	31.1	1	100.0	51	26.9
III, b	Pretend grocery store	45	28.7	31	24.0	1	3.4	0	0.0	24	12.7
IV, b	Pretend fruit stand	24	15.3	27	21.0	7	24.1	0	0.0	43	22.8
V, b	Puppets stress need for breakfast	21	13.4	23	17.8	8	27.6	0	0.0	49	26.0
	Totals	157		129		29		1		189	

Food Related Activities. The five food related activities received more excellent responses, 200, than did any of the other six groups of activities. A complete evaluation of the data is shown in Table XX. The "snack" activity for Concept I received the most excellent responses, 52 of the 200, or 26.0 per cent, as well as 27 of 112, or 24.1 per cent, of the good responses. In addition it was the food related activity which teachers reported using the most.

The "corn on the cob" activity for Concept IV received the fewest number of excellent responses, 20 of the 200, or 10.0 per cent. It also received the fewest good responses, 16 of 112, or 14.4 per cent, and 10 of 14, or 71.5 per cent, of the fair responses.

From these data it seemed the "snack" activity for Concept I was the preferred food related activity, while the "corn on the cob" activity for Concept IV was the least favored.

Music or Song Activities. It was interesting to know that the music activity for Concept I "Old McDonald Had a Farm" received more excellent, good, and fair responses than did any of the other music activities for this group of activities. It received 23.1 per cent of the excellent, 23.4 per cent good, and 26.2 per cent of the fair responses. It did not receive an omit response and was the music activity used the most by teachers in this sample. The music and song activities are presented in table form in Table XXI.

The "shaking milk to music" activity for Concept IV received the fewest excellent and good responses; 20, or 15.4 per cent, and 20, or 18.7 per cent, respectively. In addition it received four of the five omit responses or 80 per cent. The activities which seemed to have not been used were the music activities for Concept IV "shaking milk to

TABLE XX

ANALYSIS OF FOOD RELATED ACTIVITIES
FOR THE FIVE CONCEPTS

Concepts	Activities	Excellent		Good		Fair		Omit		Had Not Used	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I, c	Snack	52	26.0	27	24.1	0	0.0	1	10.0	21	12.4
II, c	Tasting party	46	23.0	27	24.1	1	7.1	2	20.0	25	14.8
III, c	Taste familiar and unfamiliar foods	42	21.0	21	18.7	2	14.3	1	10.0	35	20.7
IV, c	Corn on cob	20	10.0	16	14.4	10	71.5	4	40.0	51	30.2
V, c	Cooking and tasting bread, make sandwiches	40	20.0	21	18.7	1	7.1	2	20.0	37	21.9
	Totals	200		112		14		10		169	

TABLE XXI

ANALYSIS OF MUSIC OR SONG ACTIVITIES
FOR THE FIVE CONCEPTS

Concepts	Activities	Excellent		Good		Fair		Omit		Had Not Used	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I, d	"Old McDonald Had a Farm"	30	23.1	25	23.4	11	26.2	0	0.0	35	15.8
II, d	"Milk" and bulletin board	28	21.5	20	18.7	7	16.7	0	0.0	46	20.8
III, d	Song "Meat, Meat, Meat"	28	21.5	21	19.6	6	14.3	0	0.0	46	20.8
IV, d	Music and shake milk	20	15.4	20	18.7	10	23.8	4	80.0	47	21.3
V, d	Sing "ABCD Energy"	24	18.5	21	19.6	8	19.0	1	20.0	47	21.3
	Totals	130		107		42		5		221	

music" and the activity for Concept V sing the song "ABCD Energy." There were 47 responses out of 221, or 21.3 per cent, for each of these two activities that had not been used.

In conclusion, the song "Old McDonald Had a Farm" for Concept I received the greatest number of excellent responses. It was also the music activity which had been used the most. "Shaking milk to music" for Concept IV seemed to receive the fewest number of supporters.

Creative Arts Activities. The creative art activities were another type of activity analyzed in Table XXII. The art activity using foods to make a "collage or mosaic" for Concept I and the "favorite food booklet" for Concept II received nearly identical excellent responses: 31, or 26.3 per cent, and 30, or 25.4 per cent. These two activities also received the greatest number of good responses: 20, or 21.5 per cent, and 23, or 24.7 per cent, respectively. Likewise these activities for Concept I and II had been used the most according to these teachers.

The "Dan and Sue Friendly Foods Coloring Book" for Concept IV was the creative arts activity which received the most had not used responses in this group of creative arts activities, 55 of 221, for 24.9 per cent. It received five of the nine omit responses and the fewest number of excellent responses, 13 of 118, of 11.0 per cent, when compared with the other creative arts activities for the other concepts.

In conclusion, the creative art activity for Concept I "collage or food mosaic" and the "favorite food booklet" for Concept II were considered valuable in the creative arts group. The "Dan and Sue Friendly Coloring Book" was the least popular creative arts activity with this group of teachers.

TABLE XXII

ANALYSIS OF CREATIVE ART ACTIVITIES
FOR ALL FIVE CONCEPTS

Concepts	Activities	Excellent		Good		Fair		Omit		Had Not Used	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I, e	Art activity, mosaic or collage using foods	31	26.3	20	21.5	12	18.7	2	22.2	36	16.3
II, e	Favorite food booklet	30	25.4	23	24.7	8	12.5	1	11.1	39	17.6
III, e	Spatter paint using food shapes	19	16.1	17	18.3	17	26.6	0	0.0	48	21.7
IV, e	Dan and Sue friendly foods coloring book	13	11.0	17	18.3	11	17.2	5	55.6	55	24.9
V, e	Mosaic using cereals	25	21.2	16	17.2	16	25.0	1	11.1	43	19.5
	Totals	118		93		64		9		221	

Visual Aids or Resource Activities. The data presented in Table XXIII show that more visual aid type of activities had not been used, 251, than were used, 235. The visual aid activity which was a film "Breakfast I Love You" for Concept V received the greatest number of had not used responses, 62 of 251, or 24.7 per cent. It was also the visual aid activity that received the fewest number of excellent, 16, or 16.4 per cent, and 15, or 13.9 per cent, good responses.

The visual aid activity which seemed to be the favorite of teachers in this group of activities was the "children make a favorite food bulletin board" activity, used to teach Concept II. It received the greatest number of excellent, 27 of 98, or 27.6 per cent, and 33 of 108, or 30.6 per cent, good responses. In addition it was the activity which had been used the most. Every visual aid activity received an omit response. There were a total of 19 omit responses: six each were for the activity "mother demonstrate bread making" Concept I and "baby picture to show growth" used in teaching Concept III.

In summary, the visual aid type of activity received the greatest number of omit responses of any of the seven types of activities. The activity "children make favorite food bulletin board" for Concept II was the preferred visual aid activity in this group; while the film "Breakfast I Love You" for Concept V was the least used.

Manipulative-Motor Activities. The manipulative-motor skill activities data are shown in Table XXIV. The manipulative-motor skill type of activity which received the greatest number of excellent responses, 43 of 152, or 28.3 per cent, was for the "feel box" activity. This was the activity suggested for Concept I. It was also the manipulative motor skill type of activity which had been used the most.

TABLE XXIII

ANALYSIS OF VISUAL AIDS OR RESOURCE TYPE LEARNING ACTIVITIES FOR THE FIVE CONCEPTS

Concepts	Activities	Excellent		Good		Fair		Omit		Had Not Used	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I, f	Mother demonstrate bread making	17	17.3	19	17.6	6	20.7	6	31.6	53	21.1
II, f	Children make favorite food bulletin board	27	27.6	33	30.6	5	17.2	1	5.2	35	13.9
III, f	Baby picture to show growth	21	21.4	17	15.7	7	24.2	6	31.6	50	20.0
IV, f	Filmstrip--"My Dad Is a Dairy Farmer"	17	17.3	24	22.2	5	17.2	4	21.1	51	20.3
V, f	Film--"Breakfast I Love You"	16	16.4	15	13.9	6	20.7	2	10.5	62	24.7
	Totals	98		108		29		19		251	

TABLE XXIV

ANALYSIS OF MANIPULATIVE-MOTOR SKILL TYPE ACTIVITIES
FOR THE FIVE CONCEPTS

Concepts	Activit	Excellent		Good		Fair		Omit		Had Not Used	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I, g	Feel Box	43	28.3	24	20.7	5	16.2	0	0.0	29	14.2
II, g	Manipulative Math.--sort foods in many ways	31	20.5	23	19.8	6	19.3	0	0.0	41	20.1
III, g	Game, Food Basket Upset	30	19.7	18	15.5	8	25.8	1	50.0	44	21.6
IV, g	Wall Mural Game	18	11.8	23	19.8	8	25.8	1	50.0	51	25.0
V, g	Breakfast Game allows children to assemble own breakfast	30	19.7	28	24.2	4	12.9	0	0.0	30	19.1
	Totals	152		116		31		2		204	

The "wall mural game" for Concept IV received the fewest excellent responses, 18 or 19.7 per cent; in addition it was the activity for this group that received the most had not used responses, 51 or 25.0 per cent. It also received one of the two omit responses. The other omit response was for the game "food basket upset" used in Concept III.

In conclusion, teachers in this sample considered the "feel box" for Concept I as the best manipulative-motor skill type of activity. The "wall mural game" for Concept IV received the lowest rating of any of the manipulative-motor skill activities.

In summary, the kindergarten teachers in this sample seemed to be consistent with their ratings and with their use of the learning activities. A general conclusion seemed to be that any activity which required teachers to prepare materials or to order such received lower ratings than did other activities. For example the flannel story "Smile Ralph Smile" Concept I, a; and "pirate puppets" for Concept II, b; and "breakfast puppets" for Concept V, b, were activities receiving the lowest ratings. In addition the activity "corn on the cob" for Concept IV, c; and the activity "shake milk in baby food jars to music" for Concept IV, d; and the activity "Dan and Sue Friendly Foods Coloring Book" for Concept IV, e. also received lower ratings. The films and filmstrips for Concept IV, f. "My Dad is a Dairy Farmer" and Concept V, f. "Breakfast I Love You" also were activities that had been used the least. Likewise, the "wall mural game" activity for Concept IV, g. received the fewest responses. This seemed to indicate that if teachers had to prepare or order materials for certain activities then these activities were also the ones which often had not been used.

Analysis of the Highest Rated Activities for the Five Concepts

It was desirable to determine which activity received the greatest number of excellent, good, and fair ratings for each of the five concepts. The researcher also sought to determine which activities teachers believed should be omitted and which activities they had not used that were suggested in the guide. Tables XXV through XXIX present a complete summary of responses evaluating the highest rated learning activities.

Analysis of the Highest Rated Activities for Concept I. The data in Table XXV for Concept I (all foods have names) revealed that the food related activity received the most excellent responses, 52 of 250, or 20.8 per cent. The language arts activity received 26 of 166 good rated responses, or 15.7 per cent. The greatest number of fair responses, 12 of 42, or 28.6 per cent, was for the creative arts activity suggested for Concept I. The visual aid activity for this concept received 6 of the 10 omit responses, or 60 per cent. The visual aid activity for Concept I was also the activity which received the greatest number of had not been used responses, 53 of 239, or 22.2 per cent.

Analysis of the Highest Rated Activities for Concept II. When the data in Table XXVI were analyzed to determine which activity received the greatest number of excellent responses for Concept II (we like some foods more than others), it was found that the food related activity received the greatest number of excellent responses, 46 of 213, or 21.5 per cent. The language arts activity received the greatest number of good responses, 34 of 183, or 18.6 per cent. The dramatic play

TABLE XXV

ANALYSIS OF THE HIGHEST RATED ACTIVITIES FOR CONCEPT I, ALL FOODS HAVE NAMES

Concept I Learning Activities	Excellent		Good		Fair		Omit		Had Not Used	
	Freq.	%	Freq.	%	Freq.	%	Freq.		Freq.	%
a. Language Arts	27	10.8	26	15.7	4	9.5	1	10.0	43	18.0
b Dramatic & Role Play	50	20.0	25	15.1	5	9.5	0	0.0	22	9.2
c. Food Related	52	20.8	27	16.2	0	0.0	1	10.0	21	8.8
d. Music and Songs	30	12.0	25	15.1	11	26.2	0	0.0	35	14.6
e. Creative Arts	31	12.4	20	12.0	12	28.6	2	20.0	36	15.1
f. Visual Aids	17	6.8	19	11.4	6	14.3	6	60.0	53	22.2
g. Manipulative-Motor Skills	43	17.2	24	14.5	5	11.9	0	0.0	29	12.1
Totals	250		166		42		10		239	

TABLE XXVI

ANALYSIS OF THE HIGHEST RATED ACTIVITIES FOR CONCEPT II,
WE LIKE SOME FOODS MORE THAN OTHERS

Concept II Learning Activities	Excellent		Good		Fair		Omit		Had Not Used	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
a. Language Arts	35	16.4	34	18.6	6	14.3	0	0.0	26	9.9
b. Dramatic & Role Play	17	7.9	23	12.6	9	21.4	1	20.0	51	19.3
c. Food Related	46	21.5	27	14.8	1	2.3	2	40.0	25	9.5
d. Music and Songs	28	13.1	20	10.9	7	16.6	0	0.0	46	17.5
e. Creative Arts	30	14.0	23	12.6	8	19.1	1	20.0	39	14.9
f. Visual Aids	27	12.6	33	18.0	5	11.9	1	20.0	35	13.3
g. Manipulative-Motor Skills	*31	*14.5	*23	*12.6	*6	*14.3	*0	*0.0	*41	*15.6
Totals	213		183		42		5		263	

*Average of (g) activities for Concepts I, III, IV, and V.

activity received the most fair responses. It received 9 of the 42 fair responses for Concept II, or 21.4 per cent. The greatest number of omit responses, 2 of the 5, were for the food related activity. Fifty-one responses of the 263, or 19.3 per cent, for activities that had not been used were for the dramatic play activity.

Analysis of the Highest Rated Activities for Concept III. The dramatic play type of activity for Concept III (it is fun to learn to eat a wide variety of foods) received the greatest number of excellent responses, 45 of 205 or 22.0 per cent, and 31 of 146 or 21.6 per cent of the good ratings. Table XXVII reveals these data. Seventeen of the 44 fair responses, or 38.6 per cent, were for the creative arts activity. The greatest number of omit responses for activities for Concept III were for the visual aid type of activity. The language art activity received the greatest number of responses for the activity which had not been used, 55 of 302 or 18.2 per cent.

Analysis of the Highest Rated Activities for Concept IV. When the activities for Concept IV (food is good for us) were analyzed, as shown in Table XXVIII, the most excellent responses were for the dramatic play activity which received 24 of 134 responses, or 17.9 per cent. The language art activity received the greatest number of good responses, 33 of 160 or 20.6 per cent. The activities suggested for Concept IV received the greatest number of fair responses of any of the concepts, 56. Eleven of the 56, or 19.6 per cent, were for the creative art activity. This type of activity also received the most omit responses, 5 of 19, or 26.3 per cent for Concept IV. In addition the creative art activity for this concept also received the most had not been used responses, 55 of 338 or 16.2 per cent.

TABLE XXVII

ANALYSIS OF THE HIGHEST RATED ACTIVITIES FOR CONCEPT III,
IT IS FUN TO LEARN TO EAT A WIDE VARIETY OF FOODS

Concept III Learning Activities	Excellent		Good		Fair		Omit		Had Not Used	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
a. Language Arts	20	9.8	21	14.3	3	6.9	2	20.0	55	18.2
b. Dramatic & Role Play	45	22.0	31	21.2	1	2.3	0	0.0	24	7.9
c. Food Related	42	20.4	21	14.3	2	4.5	1	10.0	35	11.6
d. Music and Songs	28	13.6	21	14.3	6	13.6	0	0.0	46	15.2
e. Creative Arts	19	9.3	17	11.6	17	38.6	0	0.0	48	15.9
f. Visual Aids	21	10.2	17	11.6	7	15.9	6	60.0	50	16.6
g. Manipulative-Motor Skills	30	14.6	18	12.3	8	18.2	1	10.0	44	14.6
Totals	205		146		44		10		302	

TABLE XXVIII

ANALYSIS OF THE HIGHEST RATED ACTIVITIES FOR CONCEPT IV, FOOD IS GOOD FOR US

Concept IV Learning Activities	Excellent		Good		Fair		Omit		Had Not Used	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
a. Language Arts	22	14.4	33	20.6	5	8.0	1	5.3	40	11.8
b. Dramatic & Role Play	24	17.9	27	16.9	7	12.5	0	0.0	43	12.7
c. Food Related	20	14.9	16	10.0	10	17.9	4	21.0	51	15.1
d. Music and Songs	20	14.9	20	12.5	10	17.9	4	21.0	47	13.9
e. Creative Arts	13	9.7	17	10.6	11	19.6	5	26.3	55	16.2
f. Visual Aids	17	12.7	24	15.0	5	8.9	4	21.0	51	15.1
g. Manipulative-Motor Skills	18	13.4	23	14.3	8	14.3	1	5.3	51	15.1
Totals	134		160		56		19		338	

Analysis of the Highest Rated Activities for Concept V. The food related activity for Concept V (eating breakfast is important and can be fun) received the greatest number of excellent responses, 40 of 195, or 20.5 per cent. The reader is reminded to examine Table XXIX to find these data. The language art activity received the most responses, 30 of 154, or 19.4 per cent, of the good responses. Sixteen fair responses of the 45 were for the creative art activity. The food related activity and the visual aid activity each received 2 of the 6 omit responses. The greatest number of responses for activities which had not been used were for the visual aid activity. It received 62 of the 307 had not been used responses, or 20.2 per cent.

In summary, the data in Tables XXV through XXIV revealed that three food related activities received the greatest number of excellent responses. The excellent rated food activities were for Concept I (all foods have names) and Concept II (we like some foods more than others) and Concept V (eating breakfast is important and can be fun). Two dramatic play activities also received the greatest number of excellent responses for two of the concepts. The dramatic play activities were for Concept II and Concept IV. Since three food related activities and two dramatic play activities received the greatest number of excellent ratings by teachers, it was concluded that kindergarten teachers believed that food related activities followed by dramatic play activities had the greatest value in teaching these nutrition concepts to kindergarten children.

In conclusion about the activities teachers considered good to teach the concepts it would seem language arts activities were desired for Concepts II, IV, and V. The dramatic play activity was desired

TABLE XXIX

ANALYSIS OF THE HIGHEST RATED ACTIVITIES FOR CONCEPT V, EATING BREAKFAST IS IMPORTANT AND CAN BE FUN

Concept V Learning Activities	Excellent		Good		Fair		Omit		Had Not Used	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
a. Language Arts	39	20.0	30	19.4	2	4.4	0	0.0	30	9.8
b. Dramatic & Role Play	21	10.8	23	14.9	8	17.8	0	0.0	49	16.0
c. Food Related	40	20.5	21	13.7	1	2.2	2	13.3	37	12.0
d. Music and Songs	24	12.3	21	13.7	8	17.8	1	16.6	47	15.3
e. Creative Arts	25	12.8	16	10.3	16	35.5	1	16.6	43	14.0
f. Visual Aids	16	8.2	15	9.8	6	13.3	2	33.3	62	20.2
g. Manipulative-Motor Skills	30	15.3	28	18.2	4	8.9	0	0.0	39	12.7
Totals	195		154		45		6		307	

for Concept II and the food related activity was believed good for Concept I.

Activities were also analyzed for the fair responses. In summary, four of the five creative arts activities received the most fair responses to use in teaching Concepts I, III, IV, and V. The only activity other than creative arts which received the most fair responses for the five concepts was the dramatic play activity for Concept II. These ratings seemed to indicate that the creative arts activities received the most fair responses for four of the five concepts.

In conclusion, 3 of the visual aid activities received the most omit responses for three of the five concepts. Many teachers reported that these resources were not available, although the researcher had designated that these were free or inexpensive and had provided the addresses from which to secure these. It also seemed to appear that the kindergarten teachers in this sample had made the least use of visual aid activities.

Analysis of Total Ratings of Seven Types of Activities

The total ratings for the seven activities for each concept were analyzed. This was used to determine which concepts activities were believed to be of the most value in helping the teacher teach nutrition. The total responses for the omit and had not been used activities were also analyzed and discussed. The total ratings of the seven activities for each concept may be found in Table XXX. Activities for Concept I (all foods have names) received the highest total number of responses with 250 excellent out of a possible 998 or 25.1 per cent.

TABLE XXX

COMPARISON OF TOTAL RATINGS OF SEVEN TYPES OF ACTIVITIES

Concept	Activities	Excellent		Good		Excellent & Good Totals		Fair		Omit		Had Not Used	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I.	All foods have names.	250	25.1	166	20.5	416	23.0	42	18.3	10	20.0	239	16.5
II.	We like some foods more than others.	214	21.4	183	22.7	397	22.0	42	18.3	5	10.0	263	18.2
III.	It is fun to learn to eat a wide variety of foods.	205	20.6	146	18.0	351	19.4	44	19.2	10	20.0	302	20.8
IV.	Food is good for us.	134	13.4	160	19.8	294	16.3	56	24.5	19	38.0	338	23.3
V.	Eating breakfast is important and can be fun.	195	19.5	154	19.0	349	19.3	45	19.7	6	12.0	307	21.2
	Totals	998		809		1807		229		50		1449	

Activities for Concept II (we like some foods more than others) was second; it received 214 responses, or 21.4 per cent. The third greatest number of total excellent responses was for the activities suggested for Concept III (it is important to eat a wide variety of foods). These activities were followed by activities for Concept V (eating breakfast is important and can be fun) which received 195 responses, or 19.5 per cent. Concept IV (food is good for us) received the smallest total number of excellent responses, 134 or 13.4 per cent for its activities.

When the good ratings were totaled for all seven activities for each concept, it was found that activities for Concept II (we like some foods more than others) received the greatest number of good ratings, 183 or 809 or 22.7 per cent. Activities for Concept I (all foods have names) was second. It received 166 responses or 20.5 per cent. Activities for Concept IV was third with 160 responses, or 19.8 per cent. Next was Concept V (eating breakfast is important and can be fun) with 154 responses, or 19.0 per cent, for its activities. The fifth rated group of activities was for Concept III which received 146 responses, or 18.0 per cent.

In conclusion, activities for Concept I (all foods have names) received the most excellent ratings and activities for Concept II (we like some foods more than others) was second. For the good ratings the kindergarten teachers in this sample rated the activities for Concept II (we like some foods more than others) first and the activities for Concept I (all foods have names) was second. It may be generalized that the learning activities for either Concept I (all foods have names) or Concept II (we like some foods more than others) received

the greatest number of either excellent or good responses.

The excellent and good ratings were also combined for a grand total for each of the five concepts. This was used to determine which concept had the greatest number of excellent and good rated activities. Activities for Concept I (all foods have names) received 416 responses of the total 1807, or 23.0 per cent, rated by the teachers as excellent and good. Concept II was second with 397 or 22.0 per cent responses for its activities. The third concept's activities to receive the most combined excellent and good ratings was activities for Concept III (it is fun to learn to eat a wide variety of foods) with 351 responses, or 19.4 per cent. The activities for Concept V (eating breakfast is important and can be fun) followed closely as fourth with 349 responses or 19.3 per cent. Concept IV (food is good for us) received the fewest total combined excellent and good responses with 294 out of 1807, or 16.3 per cent. Refer to Table XXX for a summary of total excellent and good responses for each of the concepts.

When the fair responses were analyzed, it was found that Concept I (all foods have names) and Concept II (we like some foods more than others) received the fewest number of fair ratings. Each received 42 of 229 or 18.3 per cent of the responses. Concept III (it is fun to learn to eat a wide variety of foods), Concept V (eating breakfast is important and can be fun), and Concept IV (food is good for us) ranked next with 44 responses, or 19.2 per cent; 45 or 19.7 per cent; and 56 responses, or 24.5 per cent, respectively. It may be concluded that when analyzing the total number of fair responses the concepts ranked in the opposite order as did the total excellent and good responses for the concepts.

The data were further analyzed to determine which concept's activities received the most omit responses. The activities for Concept IV (food is good for us) received a total of 19 of 50 responses, or 38.0 per cent. This was the most omit responses for any concept's activities. One teacher said Childcraft was not available so the language art activity using it should be omitted. Four omit responses were for the food related activity "corn on the cob." Two teachers failed to state reasons why they believed the activity should be omitted. Two others said it was too expensive and that funds were not available for this food activity.

Four omit responses were reported for the music activity for Concept IV. One teacher said she could never get enough jars. Another questioned 26 jars of milk in a kindergarten classroom. Two stated funds for milk were not available.

Five teachers believed the "Dan and Sue Friendly Foods Coloring Book" which was suggested for the creative art activity should be omitted. Two teachers said they did not like coloring books. One teacher said she did not have the coloring book available to run off copies. Reasons were not given by two other teachers.

Four visual aid activities for Concept IV (food is good for us) were advised as should be omitted. One kindergarten teacher reported she had no filmstrip projector in her classroom. Another said she did not have the filmstrip. Two teachers failed to provide reasons. The "wall mural game" was the manipulative-motor skill activity for Concept IV that should be omitted according to one teacher because her classroom did not have enough walls. The activities for both Concept I (all foods have names) and Concept III (it is fun to learn to eat a wide

variety of foods) had 10 omit responses, or 20.0 per cent. Ten responses were recorded for omitting the activities for Concept I (all foods have names). No reasons were given by the teacher sho reported that the language art activity should be omitted. The reason stated for omitting the food related activity was that the administration does not allow children to bring food for this type of experience to school. Only one reason was given for the 2 omit responses for the creative art activity. This kindergarten teacher said, "I feel it is not good to glue foods on paper."

Six omit responses were recorded for the visual aid activities; however, only four reasons were cited for the activities for Concept I (all foods have names). Two teachers wrote that it was impossible to get a mother because all the mothers worked. Two others thought bread making was difficult for students and teachers. Another stated bread takes too long to bake.

There were 10 omit responses for the activities for Concept III (it is fun to learn to eat a wide variety of foods); however, reasons were not provided for the two responses recorded for the language arts activities. One teacher reported that no funds were available to carry out the food related activity. Three teachers of the six suggesting that the visual aid activity be omitted reported that their children do not have baby pictures. Another said this activity was impossible for inner-city children. Two teachers failed to give reasons why they believed the visual aid activity should be omitted. Yet another kindergarten teacher stated that the child forgot what food he was so she believed that the manipulative-motor skill activity should be omitted.

The activities for Concept V (eating breakfast is important and can be fun) and Concept II we like some foods more than others) received nearly identical numbers of omit responses, 6 and 5 respectively. Out of the six omit responses for Concept V (eating breakfast is important and can be fun), 6 reasons were given. Two of the omit responses were for the cooking and tasting experience. Teachers believed these activities should be omitted because funds are unavailable and because there is no way to cook.

The reason given for the omit responses for the music activity "ABCD Energy," Concept V, was that it is too advanced. According to one teacher the creative art experience should be omitted because the most valuable cereals (nutritionally) would not be in a suitable form to glue to paper. Two other teachers reported that the film "Breakfast I Love You" was not available so should be omitted.

These data seemed to indicate that Concept II (we like some foods more than others) had the fewest number of activities, 5, which teachers believed should be omitted from the nutrition guide. There were only two teachers who stated reasons why the activities should be omitted. These two teachers believed that the food related activity should be omitted because funds are not available for the tasting parties. A complete listing of the number of omit responses for all five concepts is shown in Table XXX.

When the totals of the activities that had not been used for each concept were analyzed it was found that activities for Concept IV (food is good for us) had the greatest number of responses, 338 out of a possible 1449 or 23.3 per cent. Activities which had not been used for Concept V (eating breakfast is important and can be fun) was next with

307, or 21.2 per cent, of the responses. There were 302 responses, or 20.8 per cent for the activities for Concept number III (it is fun to learn to eat a wide variety of foods). Concept II (we like some foods more than others) received 263 responses, or 18.2 per cent, for activities which had not been used by teachers in this sample. Activities for Concept I (all foods have names) received the fewest had not been used responses, 239 or 16.5 per cent. In summary, nearly one-fourth of the activities had not been used for Concept IV (food is good for us) while slightly over one-fifth of the activities had not been used for Concept V (eating breakfast is important and can be fun) and Concept III (it is fun to learn to eat a wide variety of foods). It may be concluded that Concept I, followed by Concept II, had the fewest number of activities that had not been used by these kindergarten teachers. The seven activities suggested for Concept I (all foods have names) seemed to be considered to have the most value and had been used by more of the teachers to teach that concept than did the other activities for their respective concepts. A complete listing of total ratings of the seven activities that had not been used, for each concept, is presented in Table XXX.

Evaluation of Open-end Statements

Summary of Kindergarten Teachers' Successful Nutrition Teaching Experiences

An open-end statement asked kindergarten teachers to list any aspect of nutrition that they had been particularly successful in teaching during the past year. The 63 responses to the statement were

varied; however, the greatest number of responses, 20, or 31.7 per cent, referred to the tasting parties, actual food preparation and cooking as being very valuable and successful aspects in teaching nutrition. One kindergarten teacher stated, "The children and I were successful whenever we cooked and prepared food to taste." Another teacher suggested she had been particularly successful in all cooking and tasting experiences. Another teacher felt that tasting parties went over big and that her kindergarten children loved to taste and smell. One teacher stated, "The kids had a ball making butter, jelly and cookies this year." Another told of having a "crunch lunch," where each child brought a raw vegetable that goes "crunch." The children prepared the vegetables and then everyone tasted each vegetable.

Other successful learning experiences dealt with eating a good breakfast. Several teachers believed they were successful in teaching the importance of eating a good breakfast. One teacher stated, "I have been successful in teaching about breakfast, but children still do not get an adequate one. Our school needs a breakfast program." One teacher related that she taught in a low economic area where breakfast is served "free" to most children. She felt she had been very successful in encouraging children to eat a good breakfast as well as helping them learn the importance of it, because she had some control of the situation. Still one other teacher wrote, "We needed the breakfast emphasis and used it successfully after receiving the guide."

The second topic mentioned the most often as a successful aspect of nutrition by teachers was food is good for us. One teacher felt that she had been successful in teaching that good food is necessary

for good health. Another teacher reported success in teaching types of foods that are needed by your body for growth, work, and play. Still another stated she taught, "Food is the fuel for our bodies. The better the fuel the better you grow." Other teachers responded that they had taught the importance of the different kinds of foods to help one grow big and strong.

Teaching the concept (all foods have names) was reported by six teachers as their successful nutrition experience with kindergarten children. Two other concepts (we like some foods more than others) and (it is fun to learn to eat a wide variety of foods) each were mentioned by several educators. One teacher said that she emphasized, it is fun to try new foods. Another told about talking about food during rest time and then the treat was tasting a new food. Getting children to try a variety of new foods was yet another successful aspect of nutrition that was reported by Oklahoma kindergarten teachers.

Classifying foods into the basic four food groups was mentioned as yet another successful aspect of kindergarten teachers' instruction in nutrition. One teacher wrote, "The basic-four was successful. When the nutritionist visited our room the children all knew and could distinguish the different groups." The basic four food groups were taught by the use of a health train trying to get into "Healthville" by another kindergarter teacher. Two others teachers related that they helped children learn to put foods into categories such as meat, fruit, and vegetables and to learn how each type helped one's body.

Three teachers mentioned the use of bulletin boards, murals, and field trips as being successful aspects for them to use in teaching nutrition. Another Oklahoma kindergarten teacher said she was

successful in teaching what foods were good for between meal snacks, particularly in relation to good dental health. One additional educator wrote, "I have children who now fix their own breakfast or other meals. This is because they are left alone. We discussed how to fix something for themselves."

Suggestions for Improving the Nutrition Guide

A second open-end statement asked kindergarten teachers to suggest ways the researcher might improve the nutrition guide. Thirty-three respondents answered the question. Twenty-eight teachers of the 33 responding, or 84.8 per cent, wrote a variety of complimentary statements about the guide. Several teachers wrote that they had no suggestions for improving the guide and considered it excellent. One teacher wrote, "It shows a great deal of work and thought and very well applied to children." Another stated, "I thought the guide was great and I appreciate your efforts and trouble. You helped my kids through my help, but it was all because of you."

Another complimentary comment one teacher wrote was, "The guide is well done and shows your superior comprehension of learning thru involvement. It is also evident that you are aware of the ignorances of most children and hence, their families in matters of food habits." Yet another kindergarten teacher stated, "You are doing a great service for a better understanding of nutrition education on the kindergarten level." One teacher suggested that the researcher should market the guide. "I think it is a very good and complete nutrition guide for kindergarten children," was another teacher's response.

One Oklahoma kindergarten teacher stated she appreciated the guide and found it helpful in planning her foods unit. The same teacher said her class climaxed their foods unit with the children preparing "Stone Soup" for their lunch.

Several teachers related that they had received the guide too late in the year for full use, but planned to use more of the activities next year. Other teachers offered their thanks for the free resource materials in the guide and hoped to secure many of these in the future.

There were five suggestions for improving the kindergarten nutrition guide. One kindergarten teacher would have liked more activities involving children working with their hands, especially in the art area. This same teacher would have liked suggestions for additional student-made bulletin boards. Another suggested that even more information and ideas be presented so that a teacher could have more choice in selecting learning activities for their class.

"Send the films, puppets, and resource materials (a nutrition kit) on a loan basis to a centralized location, so that kindergarten teachers could check them out on a regular basis," was the suggestion of another teacher. One teacher would have liked for more non-cook recipes to be included in the recipe section. More detailed puppet patterns, like the ones the researcher had displayed of different foods at the Oklahoma Kindergarten Teachers Association Meeting in Oklahoma City, was desired by still another educator.

In summary, the Oklahoma kindergarten teachers suggested that they had been particularly successful using tasting parties and cooking experiences to teach nutrition with kindergarten children. Five of the 101 respondents, or 4.9 per cent, did make suggestions for ways the

kindergarten nutrition guide could be improved. The majority of the teachers were pleased with the nutrition guide and planned to use it more in the future.

Summary of the Findings of the Evaluation of the Kindergarten Nutrition Guide

The kindergarten teachers' responses from the evaluation of the kindergarten nutrition guide are summarized in the following discussion.

The Oklahoma kindergarten teachers in this sample believed that the color coded sections of the nutrition guide aided the teachers in quickly locating materials. They would recommend the nutrition guide or similar nutrition materials to other teachers. They believed that the concepts and activities were appropriate and within the grasp of kindergarten children. According to these Oklahoma kindergarten teachers the activities could be introduced and integrated using a variety of curriculum areas and teaching methods. The majority of the teachers believed that the activities involved the kindergarten child in a personal, direct sensory-motor way. In addition they believed there were a sufficient number and a wide variety of activities which could be used with a wide range of intellectual levels of kindergarten children. Field trips to a dairy farm and a fruit store were impossible for nearly half of the teachers. Food and equipment necessary for food preparation to teach nutrition were available for slightly over one-half of these teachers.

The teachers' attitudes concerning the poor food habits of kindergarten children remained unchanged after receiving and using the

nutrition guide. An analysis of knowledge of sources to secure nutrition materials showed that approximately a 20 per cent gain in knowledge of sources occurred in three of the number categories: the 6-10, 11-15, and 16 or more sources.

Teachers checked seven of eight possible reasons why nutrition education had not been taught both before and after receiving the guide. There was only one item out of the eight possible reasons that did not receive responses. This was the "do not feel nutrition is important" item. Teachers reported "not enough nutrition resource materials appropriate for the kindergarten level" as the reason why nutrition had not been taught before receiving the guide, while the "other" category, mentioned lack of funds, and equipment, and the management of children received the most responses after the guide. The second reason teachers reported both before and after receiving the guide was that "the curriculum was too full."

When a summary was made of the four types of resource materials, provided in the guide, it was found that Oklahoma kindergarten teachers had made the greatest use of children's books followed closely by the recipes for cooking experiences. Films and filmstrips were the resources teachers planned to use the most in the future. The greatest number of responses in the do not plan to use category was also for the resource films and filmstrips.

The data were analyzed to determine which type of learning activity had the greatest value in teaching the concept for each rating. The following seven types of learning activities were selected: language arts, dramatic play, food related, music and songs, creative arts, visual aids, and manipulative-motor skill. In conclusion, the food

related activity received the greatest number of excellent responses while the language arts activities received the most good responses and the creative arts type of activities received the most fair responses. The food related activities received the most responses when the excellent and good responses were added together for a final total rating. The "visual aid" type of activity were used least and also received the most omit responses. In addition the visual aid type of activity received the fewest responses when the excellent and good responses were totaled for the seven types of activities.

Each of the seven types of activities were analyzed to determine which activity in that particular group of activities received the greatest number of responses. The kindergarten teachers in this sample seemed to be consistent with their ratings and the use of the learning activities. A general conclusion seemed to be that any activity which required teachers to prepare or secure resource materials received lower ratings than did other activities not requiring such.

When the language arts activities were compared the "telling time about a breakfast a child could fix" was the highest rated while the flannel story "Smile Ralph Smile" was considered to be of the least value. The dramatic play activity "playing store" was a favorite dramatic play activity; while the "pirate puppets discovering new food treats" received the lowest ratings by kindergarten teachers.

The "snack" activity was the preferred food related activity, while the "corn on the cob" activity was the least favored food related activity. "Old McDonald Had a Farm" song was the outstanding music activity and had been used the most for the music or song type of activities. "Shaking milk to music" was the least popular music

activity.

When the five creative art activities were compared it was found that the "collage or food mosaic" activity and the "favorite food booklet" received nearly identical responses. These two activities received the most responses in the creative arts group while the "Dan and Sue Friendly Foods Coloring Books" activity was the least popular activity for this group.

Although the visual aid group of activities received the greatest number of had not been used responses and seemed to be the least popular type of activities to teach nutrition according to this sample of kindergarten teachers, their favorite activity for the visual aid group was the activity "children make a favorite food bulletin board." The film "Breakfast I Love You" was the activity that received the most had not been used responses. When the five manipulative-motor skill activities were compared the "feel box" activity was definitely a favorite activity in this group and had been used most often. The activity "wall mural game" received the lowest rating of any of the manipulative-motor skill activities.

When the responses were compared to determine which activity received the greatest number of excellent responses, it was concluded that three food related activities and two dramatic play activities received the greatest number of excellent ratings by these teachers. In summary of the activities receiving the greatest number of good responses, it seemed that three language arts activities, one dramatic play and one food related activity received this rating. Teachers rated four of the five creative arts activities as fair. One dramatic play activity also received the greatest number of fair responses.

Three of the five visual aid activities received the greatest number of omit responses. The other two activities which received the most omit responses were the creative arts and food related activity. It seemed to appear that over half of the teachers in this sample had not used four of the seven types of activities. These were the visual aid activities, dramatic play, language arts, and creative arts activities.

In conclusion, the data from the total ratings of the seven activities revealed that the activities for Concept I (all foods have names) and Concept II (we like some foods more than others) received the most excellent and good responses. In addition these two concepts also received the fewest fair ratings. The data seemed to indicate that activities for Concept II (we like some foods more than others) had the fewest omit responses. Concept IV (food is good for us) had the greatest number of total responses for activities which had not been used, while teachers reported that they had used the most activities pertaining to Concept I (all foods have names).

When the open-end statements were analyzed there were 63 of the 101 Oklahoma kindergarten teachers who suggested that they had taught some particularly successful aspects of nutrition to their kindergarten children. The statements were varied; however, approximately a third of the teachers mentioned food related activities, such as tasting parties, food preparation, and cookirg as the most successful.

Twenty-eight of the 33 respondents answering the second open-end question were complimentary of the guide. There were five suggestions for improving the guide; however, the majority of the Oklahoma kindergarten teachers were pleased with the guide and planned to use it even more in the future.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This final chapter summarizes the findings of a study undertaken in 1973-1974 to develop and evaluate a nutrition guide to aid kindergarten teachers in implementing a nutrition education program. Literature was reviewed in areas which would aid the researcher in conducting the study. The review included nutrition surveys and conferences, methods of increasing teacher competence in nutrition education, characteristics of young children, and nutrition education for young children. The review provided valuable insights into the status of nutrition in the United States and what education programs are being provided for young children. The literature suggested techniques to use to improve teacher competence in nutrition. Methods of presenting nutrition education to young children were found. Nutrition concepts and objectives appropriate for kindergarten children were also revealed. This information provided the basis to support the study and the rationale for its framework.

Kindergarten teachers were asked to volunteer to give opinions about nutrition at the kindergarten level. The population consisted of 250 kindergarten teachers who volunteered while attending the annual Oklahoma Kindergarten Teachers Association meeting on October 18, 1973,

at Apollo Elementary School, Oklahoma City, Oklahoma. A nutrition education program was presented by the researcher at this annual kindergarten meeting to motivate teachers to volunteer and take part in this research. There were 218 of the 250 kindergarten teachers who completed a volunteer index card and met the criteria for this research. Usable responses from the nutrition education survey were received from 164 of the 218 Oklahoma kindergarten teachers. This represented a 75.2 per cent return.

The Nutrition Education Survey Instrument consisted of 44 questions formulated in relation to seven objectives (see Appendix A). The seven objectives sought to determine (1) background information about the sample, (2) kindergarten teachers' opinions concerning general nutrition information, (3) opinions of kindergarten teachers about their educational preparation in the area of nutrition education, (4) opinions of kindergarten teachers toward teaching nutrition in schools, (5) the status of nutrition in Oklahoma kindergarten classrooms, (6) opinions of how nutrition education should be presented, and (7) beliefs concerning nutrition education materials. The data from the Nutrition Education Survey Instrument concerning the opinions of kindergarten teachers toward nutrition education at the kindergarten level were tabulated, analyzed, and used as a basis for constructing and organizing the nutrition guide.

The nutrition guide was developed and divided into three color-coded sections. There was a preface explaining the use and organization of the guide. Section I, printed on blue paper, contained the five basic concepts and learning activities designed to help children learn these concepts. The concepts selected were the following:

(1) all foods have names, (2) we like some foods more than others, (3) it is fun to learn to eat a wide variety of foods, (4) food is good for us, and (5) eating breakfast is important and can be fun. Section II was pink and contained 49 suggested recipes. Section III contained the resource section of films and filmstrips, children's books, free or inexpensive materials and recipes and was printed on yellow paper.

The nutrition guide was mailed to each of the 157 kindergarten teachers who responded to the nutrition survey. After four months the kindergarten teachers were contacted by mail questionnaire and were asked to evaluate the nutrition guide. Evaluation questionnaires were completed and returned by 101 of the teachers. This represented a 64.3 per cent return. Percentages were used as a means to analyze the data. Open-end statements collected educators' suggestions for improvements and revisions of the guide as well as provided an opportunity for respondents to tell about a successful nutrition activity that they had taught. The data were tabulated and results were presented in Chapter IV. Finally, a nutrition guide that had been evaluaated by the sample and which could be used by the kindergarten teachers to implement a nutrition program, was developed by this researcher.

Findings and Conclusions

The typical kindergarten teacher in this sample was the holder of a Bachelor of Science or Bachelor of Arts degree, had specialized in elementary education, and did not have children under age six in the home. Over one-half of the teachers were under age 35, and had taught the area of kindergarten for less than five years. They taught both a morning and afternoon kindergarten session, and generally had a class

size of 21-25 students.

The results of the study led to the conclusion that the combined results of the nutrition survey about nutrition education at the kindergarten level and the evaluation of the nutrition guide, developed by the researcher, was one means to identify the opinions of kindergarten teachers about some nutrition education materials.

It was concluded that mailing nutrition materials to teachers was an effective method of providing nutrition education information and helping them implement nutrition into their curriculum. In this study, the provision of a nutrition education guide seemed to increase the inclusion of nutrition education into the kindergarten curriculum. This was evidenced by 2,036 responses out of a possible 3,535 which were reported for activities used by these educators. In addition many wrote that they had used other activities suggested in the guide that were not evaluated and also planned to use the guide even more next year.

A general conclusion held by the investigator was that the Oklahoma kindergarten teachers in this sample were supportative of nutrition education and believed that the schools should play a significant role in providing nutrition education. The majority of these teachers also suggested that this nutrition guide or similar material be recommended to other teachers to facilitate planning for nutrition in the kindergarten curriculum.

The Oklahoma kindergarten teachers considered poor food habits to be a problem of kindergarten children in their community; however, only one-fourth of the teachers reported that poor food habits were a problem at all economic levels. These teachers believed that both boys and

girls need nutrition education and that the classroom teacher was the person who should teach nutrition to kindergarten children.

The nutrition education background of teachers was limited. Home economics in junior high and high school had provided the background for most of these teachers. Teachers felt that the lack of preparation in the area of nutrition limited their nutrition program. Three-fourths of the respondents suggested prospective kindergarten teachers should be required to take a course in nutrition education. The first choice for additional training in the area of nutrition education was that nutrition education resource materials should be mailed to participants.

It was concluded that curriculum guides to plan for nutrition education were used by less than one-fifth of the teachers. The majority of the teachers reported that curriculum guides in the area of nutrition were scarce and that the nutrition topics presented were few and inadequate. Commercial food companies and professional magazines provided the basis from which kindergarten teachers obtained nutrition information to use in curriculum planning. Every respondent desired to receive nutrition education resource materials and stated they would be more willing to teach nutrition if they were provided with resource materials.

The kindergarten teachers believed that nutrition information can be presented using simple terminology. They believed that changes in food habits are easier to achieve if activities are related to the interests of kindergarten children. Good eating habits are more readily achieved when children are young. Kindergarten children develop better food habits if exposed to a wide variety of foods. The

development of favorable attitudes toward food is more important than learning nutrition facts. Kindergarten children who know the basic four food groups will not necessarily select adequate diets.

Field trips to a dairy farm and a fruit store were impossible for nearly half of the teachers. Food and equipment necessary for food preparation to teach nutrition were available for slightly over half of the teachers.

It was concluded that teachers did not teach nutrition primarily because there were not enough nutrition resource materials appropriate for the kindergarten level before receiving the guide. Teachers reported that the lack of funds, equipment, and the management of children were the primary reasons for not teaching nutrition after receiving the nutrition guide. The second reason most often reported by the teachers both before and after receiving the guide was that the curriculum was too full.

The majority of the teachers believed that the five concepts presented in the guide were appropriate for young children and that the seven types of activities suggested provided a means to facilitate educational information about nutrition by integrating it in the existing daily curriculum for kindergarten children.

Three food related and two dramatic play activities received the most excellent responses and teachers indicated that these activities were excellent activities to use to teach their respective concepts. It appeared that the food related type of activities, the language arts, and the dramatic play type of activities were the most valuable type of activities to use in teaching nutrition according to teachers in this sample. The visual aid type of activities had been used the

least, and were also the type of activities which were suggested the most often to be omitted.

The results of the study led to the conclusion that Concept I (all foods have names) and Concept II (we like some foods more than others) received the most excellent and good responses. Teachers reported that they had used the most activities pertaining to Concept I (all foods have names). Concept IV (food is good for us) had the greatest number of responses for activities which had not been used.

It was concluded that the nutrition guide provided the kindergarten teacher with information about potential sources to secure nutrition information since approximately one-fourth of the teachers reported an increase in knowledge of sources. Teachers also reported that they planned to use in the future the resources identified in the guide. Children's books were the resource which they had made the greatest use of during the research study.

Approximately two-thirds of the kindergarten teachers felt that they had taught at least a moderate amount of nutrition. In addition they had taught an aspect of nutrition which they considered successful. The majority of the successful learning experiences dealt with food related activities. There were five suggestions for improvements of the guide; however, the majority of the Oklahoma teachers were pleased with the guide, and believed it was an excellent source that could provide teachers with nutrition education materials to use with their kindergarten children.

Recommendations for Further Research

Considerations of the findings in this study and the findings of

other investigators as noted in the review of literature suggest certain interpretations and implications for understanding how nutrition education materials and opinions about these are used for instructional purposes. On the basis of the findings and conclusions of this study, the following recommendations are proposed by the researcher to promote nutrition education. These recommendations have implications for kindergarten teachers, persons interested in nutrition programs for young children and fellow researchers.

1. It was suggested that persons in higher education promote nutrition education for kindergarten teachers. Since three-fourths of the teachers suggested that prospective kindergarten teachers should be required to take a course in nutrition education to prevent lack of preparation in the area, it would be idealistic to require a nutrition course at the undergraduate level to meet elementary certification. An understanding of basic nutrition information and innovative methods of teaching an integrated nutrition education program would help prepare future kindergarten teachers in the area of nutrition. Thus, they would be in a better position to help combat nutrition ignorance. They could implement a nutrition education program which would provide many opportunities for children to gain information about food and nutrition and to develop positive attitudes toward desirable foods.

2. Provisions should be made for more kindergarten teachers to attend and participate in inservice training, meetings, and conventions which offer inservice training in current nutrition resource materials. One of the most practical solutions would be to train teachers already in the profession to be allied professionals in teaching nutrition. Opportunity for increasing teachers' knowledge of nutrition using

inservice training was reported by few teachers; however, teachers in this sample reported that inservice workshops throughout a semester was their next choice, other than having materials mailed to them to secure additional nutrition training.

3. It was suggested that additional guides and resource materials in the area of nutrition education for kindergarten children be developed, since kindergarten teachers reported that they desired nutrition education materials and would be more willing to teach nutrition if they had nutrition resource materials available. Teachers reported that curriculum guides in the area of nutrition were scarce and that the nutrition topics in these were few and inadequate. Curriculum guides should be developed by the State Department of Education and/or others, for nutrition education, which would include information sequenced from grades K-12. The emphasis for these guides must focus on developing good food habits, and should involve the child as an active participant. This approach should be emphasized rather than the mere learning of facts. With additional guides, teachers would have an available supply of materials from which to choose to aid them in incorporating nutrition in their curriculum.

4. Since teachers on the first survey suggested than an improvement for the guide would be to actually provide the resource materials thus enabling teachers to check them out with little effort, it was suggested that additional resource materials in the form of a Nutrition Kit be developed and placed in libraries. This would enable teachers to check out and use the materials easily. Based upon the rating of teachers in this sample this kit should contain learning materials related especially to the following areas: (1) many experiences should

be related to foods; such as tasting and cooking ideas, nutrition education for snack and lunch time need to be encouraged; (2) language arts; which should contain flannel board stories, poems, riddles, books, and suggestions for telling time; (3) dramatic play ideas; as well as ideas for teaching nutrition in the housekeeping area and puppets representing food figures. In addition the elementary teachers should help build a professional library in each elementary school building, containing professional journals, resource books and pamphlets about nutrition education.

5. It was suggested that private commercial companies be urged to play an even greater role in promoting nutrition education since the majority of the teachers reported that they obtained nutrition information from this source to use in curriculum planning. These companies should be encouraged to continue to provide free or inexpensive resource materials such as films, filmstrips, records, food models, and visual aids to be used with kindergarten children. They should also be encouraged to establish a promotion policy informing interested persons that these materials are available.

6. It was suggested that a cooperative nutrition education program be established to inform teachers as well as members of our society about the importance of good food habits. One should use all available resources such as county extension service, video-taped programs, health departments, media such as newspapers, professional journals, radio and television programs, research, as well as people trained in nutrition. By forming a consortia the facts about nutrition can reach all segments of our society and help protect the health and well-being of members of our country.

7. It was suggested that the nutrition survey, guide, and evaluation instrument be utilized in a wider geographical area in order to obtain a more representative sample of the population.

8. It was suggested that there should be continued research concerning effective means of providing nutrition education materials to educators for use with young children. Research should be undertaken to determine just what nutrition concepts are appropriate for kindergarten children. Food habits of young children should also be researched. The citizens of the United States need to be informed about the dietary practices of this age group if they are to start early with nutrition education programs that would help establish good food habits for life.

9. Teachers in this sample advised that nutrition education for parents was also a desirable nutrition education method. Therefore, the researcher suggested that interested persons should conduct local nutrition programs for young mothers, as well as conduct research in this area, because mothers play a major force in teaching good food habits to young children.

10. It was suggested that the study be continued and that kindergarten teachers again rate the learning activities that they had used at the end of the second year after having the guide. This would determine whether teachers continued to use the materials developed and if a greater use was made of these when the teachers were more familiar and had been allowed more time to secure suggested items.

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APPENDIX A

NUTRITION SURVEY INSTRUMENT

NUTRITION EDUCATION INFORMATION AS REPORTED BY KINDERGARTEN TEACHERS

Conducted by
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Under the direction of
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Your cooperation is requested in responding to every item in this questionnaire. Please return the completed questionnaire at your earliest convenience in the enclosed stamped, addressed envelope.

The majority of the items on the following pages have been designed so that you may indicate the response of your choice by a check mark (✓) in the space provided. Please answer the following questions as best you can. It is important that you answer ALL the questions. Your identity and your answers will be kept strictly confidential. Your cooperation in this research project is greatly appreciated. It is through the participation of individuals such as you that we gain greater knowledge and understanding of nutrition education.

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The following terms are defined so that there will be a common interpretation by all participants answering the questionnaire.

DEFINITION OF TERMS

NUTRITION:	Nutrition is the food you eat and how the body uses it.
POOR FOOD HABITS:	Food intake and/or dietary practices are not adequate which results in the impairment of personal health.
INTEGRATED NUTRITION:	The combination of teaching nutrition with subject matter already planned, or with several subjects.
NUTRITION EDUCATION:	Planned nutrition instruction which includes all types of materials that will help kindergarten children develop good food habits.

1. Poor food habits are considered to be a problem of kindergarten children in your community.
   _____Strongly agree
   _____Agree
   _____Disagree
   _____Strongly disagree

2. In your opinion, which of the following income groups are most susceptible to poor food habits? (IN RESPONDING, CONSIDER THE DOLLAR RANGES IN TERMS OF THE TOTAL YEARLY INCOME FOR A FAMILY OF FOUR PERSONS IN YOUR COMMUNITY.)
   _____ 0 ---- - $ 2,999 per year
   _____$ 3,000 - $ 6,999 per year
   _____$ 7,000 - $10,999 per year
   _____$11,000 - and above per year
   _____None of the above
   _____All of the above

3. It has been suggested that the term nutrition education is negative in connotation or, in other words, it turns people off. How do you feel?
   _____Strongly agree
   _____Agree
   _____Disagree
   _____Strongly disagree

4. It has been suggested that the most desirable method for preventing poor food habits is the inclusion of nutrition education in the school curriculum. Do you agree with this statement in terms of your students?
   _____Strongly agree
   _____Agree
   _____Disagree
   _____Strongly disagree

   IF YOUR RESPONSE TO ITEM 4 WAS "DISAGREE" OR "STRONGLY DISAGREE," PLEASE COMPLETE ITEM 5.

5. What was the general reason underlying your reply to item 4?

   _____

   _____

6. Should the State Legislature mandate the teaching of nutrition at the kindergarten level?
   _____Strongly agree
   _____Agree
   _____Disagree
   _____Strongly disagree

7. The evaluation of a school's nutrition education program should be included as a part of its state accreditation.
   _____Strongly agree
   _____Agree
   _____Disagree
   _____Strongly disagree

8. To what extent is nutrition education taught in your kindergarten classes?
_____Considerable
_____Moderate
_____Little
_____None

9. Nutrition information is more valuable if taught as part of an integrated kindergarten curriculum rather than as a separate unit.
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

10. Nutrition information is more valuable if taught as a separate unit in the kindergarten curriculum rather than integrated in the curriculum.
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

11. Nutrition education should be taught in the kindergarten classroom.
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

12. What are your plans for teaching nutrition education in the kindergarten classroom? (CHECK AS MANY AS APPLY)
_____Plan to teach a unit on nutrition.
_____Have already taught a unit on nutrition.
_____Do not plan to teach a unit on nutrition.
_____Plan to teach nutrition by integrated method with other subjects.
_____Have already taught nutrition by integrated method with other subjects.
_____Do not plan to teach nutrition by integrated method with other subjects.

13. If nutrition education has not been taught in your kindergarten classroom check the reason(s) for its omission.
_____Children are not interested in the subject.
_____Do not feel comfortable teaching nutrition education
_____Not enough resource materials appropriate for kindergarten level
_____Class is too large
_____Have no preparation in the subject
_____Curriculum is too full with other things
_____Do not feel it is important
_____Insufficient knowledge about nutrition
_____Other (SPECIFY) _____

14. If nutrition education was integrated into the kindergarten curriculum, with which area or areas could it be integrated?
_____Science
_____Language Arts
_____Health
_____Mathematics
_____Cooking
_____Social Science
_____Music
_____Arts and Crafts
_____Other (SPECIFY) _____

15. In which area or areas would you feel comfortable integrating nutrition education?

_____Science
_____Language Arts
_____Health
_____Mathematics
_____Cooking
_____Social Science
_____Music
_____Arts and Crafts
_____Other (SPECIFY)_____

16. Would you be more willing to teach nutrition, if nutrition resource materials were offered to you?

_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

17. Would you like to receive nutrition resource materials appropriate for the kindergarten level?

_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

18. Which sex of kindergarten students needs nutrition education most?

_____Male
_____Female
_____Both
(WHY)_____

19. Kindergarten children develop better food habits if exposed to a wide variety of foods.

_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

20. Good eating habits are more readily achieved when children are young.

_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

21. Knowledge of nutrition facts is the best way to bring about a change in food habits.

_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

22. The development of favorable attitudes toward food is more important than learning nutrition facts.

_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

23. Changes in food habits are easier to achieve if activities are related to the interests of kindergarten children.
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

24. Kindergarten children who know the Basic 4 Food Groups will select adequate diets as kindergarteners.
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

25. Do you use a curriculum guide to help plan for teaching nutrition?
_____Yes
_____No

IF "YES" WHICH ONE? _____

26. What nutrition topics are covered in the current kindergarten curriculum guide that you use?

_____

_____

_____

27. Is the treatment of nutrition in the current kindergarten curriculum guide that you use adequate for teachers' use in curriculum planning?
_____Yes
_____No

28. Where do you receive information about nutrition to use in your kindergarten teaching? (CHECK ALL THAT APPLY)
_____Commercial food companies such as Cereal Institute and the National Dairy Council
_____Professional magazines
_____Non-professional magazines
_____Television
_____Newspapers
_____College courses
_____Nutrition workshops
_____Inservice training in your school
_____Other (PLEASE SPECIFY)_____

29. Several private organizations such as the Cereal Institute and the National Dairy Council have produced resource materials pertaining to nutrition education. Have you received, or had the opportunity to review any of these materials?
_____Yes
_____No

30. How many addresses or sources are you familiar with that offer free nutrition education resource materials for kindergarten students?
_____ 0 to 5
_____ 6 to 10
_____11 to 15
_____16 or more

31. Who should teach nutrition education at the elementary school level (kindergarten through 3rd grade)?
_____Classroom teacher
_____Home economics teacher
_____Nutrition education specialist
_____Other (PLEASE SPECIFY) _____

32. Do you have sufficient knowledge about foods and nutrition to include nutrition education in the kindergarten curriculum?
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

33. Can nutrition education in the kindergarten classroom be undertaken using simple terminology concerning food and nutrition?
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

34. Do you have children in your home under age six?
_____Yes
_____No

35. Number of years experience teaching kindergarten _____. (FILL IN)

36. Total number of years teaching experience _____. (FILL IN)

37. Number of kindergarten children enrolled in your class?
Morning_____ Afternoon_____

38. What is your age range? (CHECK ONE)
_____21-35
_____36-50
_____51-65

39. Degrees held: (CHECK THE HIGHEST DEGREE HELD)
_____High School Diploma
_____B.S. or B.A.
_____M.S. or M.A.
_____Other (SPECIFY) _____

40. Area of educational specialization: (CHECK ALL THAT APPLY)
_____Elementary Education
_____Secondary Education
_____Early Childhood Education
_____Home Economics Education
_____Other (NAME FIELD) _____

41. How much nutrition education have you received? (CHECK ALL THAT APPLY)

	None	Very Little	Moderate Amount	Considerable
In jr. high home economics	_____	_____	_____	_____
In high school home economics	_____	_____	_____	_____
In 4-H work	_____	_____	_____	_____
In extension work	_____	_____	_____	_____
In college nutrition courses	_____	_____	_____	_____
In other college courses	_____	_____	_____	_____
From mass media	_____	_____	_____	_____
From work experience	_____	_____	_____	_____
From inservice training	_____	_____	_____	_____
From workshops	_____	_____	_____	_____
Other (PLEASE SPECIFY) _____	_____	_____	_____	_____

42. It has been suggested that programs of nutrition education have been limited in effectiveness due to kindergarten teachers' lack of preparation in the area of nutrition education. How do you feel about this statement?
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

43. If a program of additional training in the teaching of nutrition education were to be provided for you by your school, how should it be done? (RANK ORDER THE FOLLOWING BY PLACING NUMBER 1 AS YOUR 1st CHOICE, 2 second, etc.)
_____Inservice workshops throughout a semester
_____Summer 2-week short college course
_____University extension courses
_____All day workshop devoted just to this topic
_____Nutrition education resource materials mailed to you
_____Other (PLEASE SPECIFY)
_____

44. The problem of lack of teacher preparation in nutrition education would be eliminated if prospective kindergarten teachers were required to take an undergraduate course in teaching nutrition education.
_____Strongly agree
_____Agree
_____Disagree
_____Strongly disagree

(THANK YOU FOR YOUR COOPERATION)

APPENDIX B

GUIDE FOR NUTRITION EDUCATION FOR YOUNG CHILDREN (KINDERGARTEN)

GUIDE FOR NUTRITION EDUCATION FOR YOUNG CHILDREN (KINDERGARTEN)

THIS GUIDE SUGGESTS WAYS OF TEACHING NUTRITION IN THE CLASSROOM FOR THE FOLLOWING CONCEPTS:

All foods have names.
We like some foods more than others.
It is fun to learn to eat a wide variety of foods.
Food is good for us.
Eating breakfast is important and can be fun.

PREPARED BY:

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PREFACE

The purpose of nutrition education at the kindergarten level is to provide many opportunities for children to learn about food and nutrition during their early years when their attitudes and habits about food are being formed. There is a need to start a nutrition education program early so that those people who will be the parents and leaders of tomorrow will develop the most healthful food habits possible. Much nutrition teaching at this level can and should be integrated with such other subjects as social studies, arithmetic, science, music, reading and art.

Organization of the guide This guide is divided into three sections. The first section contains the five fundamental concepts, with those suggested activities that would help the student to grasp an understanding of the concepts. All five concepts are considered to be of equal importance. More activities are listed under concept four because the teacher might include experiences related to any one of the four basic food groups. The five concepts and the explanation listed under the five concepts in this guide are not meant to be statements to be memorized in a rote fashion. Rather, they are understandings to be worked toward, as the child carries out the suggested activities.

Section II includes cooking experiences to carry out in order to further help the student understand the five concepts. Many of the cooking experiences could be interchanged or used for more than one concept if the teacher so desires. It is fundamental to nutrition education at this level that activities which help children act in a desired way are more effective than talking about desired behavior.

The last part of the guide, section III, contains a list of children's books related to foods, free and inexpensive teaching materials, films and filmstrips, and a basic puppet pattern which might supplement your program.

Use of the guide Examine the five concepts and decide when you might teach them this year. Then, with the specific concept and your class schedule in mind, order any additional materials, such as films, or foods, which will be needed for your class to carry out the activity. If the book or film is new to you, you will need to examine it in order to be sure that it is appropriate to use in your particular situation.

Next, help the children to do the activity and to have a discussion about it. The ideas in parentheses with each activity are suggested statements or questions which the kindergarten teacher could use in discussions. A teacher often leads discussion by requesting children to answer questions. She might also encourage children to raise questions and help them seek answers. The purpose of the discussion of each activity is to help the child to relate the "doing" to the more abstract, verbal concept.

Let us go! Take these learning activities off the shelf along with the peanut butter, flour and apples. Mix them liberally into the nutrition education curriculum planned for your kindergarten children, and you are off to a successful beginning. You will be helping children to develop good eating habits and attitudes for life... and you may be giving them a better chance to reach their potential for physical and mental growth.

SECTION I.

ACTIVITIES TO ENHANCE NUTRITION CONCEPTS

CONCEPT I. ALL FOODS HAVE NAMES.

(This concept must be included if one wants to be sure children recognize and know names of foods. It is impossible to teach children nutrition concepts if they can not identify and name the food that the teacher is talking about. Remember that children often do not correctly verbalize the name of foods pictured in magazines.)

a. Feel Box--Place real examples of foods in covered container. Have child reach in and guess name of food by feeling. (What does it feel like? Soft, hard, cold, etc.? What is its name?)

b. Game, Food Hunt--Have pictures scattered around room. Let children find pictures. (Can you name the food in your picture? What color is it? How does it taste? Have you ever eaten this? Pictures may be placed in circle and music played. When music stops teacher calls a food by name. The child standing on this food picks it up and says the name and shows the picture to others.)

c. Food Bingo--Home made. Have children glue pictures to a colored sheet of paper or teacher could prepare a sheet for each child. Have markers (beans or etc.) for child to place on food that teacher names. The child who gets first four markers on paper calls out Food Bingo. (Ask child to name his foods. Has anyone else got markers on their pictures? Can you name the foods? Can other children name their foods? (Children could be bingo callers for different groups if a small box of food pictures is available to call from.)

d. Snack--Taste different foods. (Have you tasted this before? How does it taste? Smell? What do we call it?)

e. Music--Sing "Old McDonald Had a Farm." (Use names of foods; Old McDonald had some apples, strawberries and etc. Ask questions about foods. How do they get their names?)

f. Visual Aid--Invite a mother to demonstrate bread making. Give each child a piece of yeast bread dough (made from scratch or frozen). Children may enjoy rolling and kneading it. Finally place in greased pan for rolls. Bake it or teacher can fry in electric deep fat fryer or skillet. Eat with honey or jelly. (Be sure to name each food used in making bread.)

g. Dramatic Play--Set out food models, food containers and paper sacks. Have children pretend they go to the store. (What did you buy? What is the name of this food? Ask child to go to the store and buy you some flour, rice, etc.)

h. Guess, Guess--

It is good for you.	It is not a cereal.
You drink it.	It is a pretty color.
Its name starts with M.	It is good for breakfast.
What is it? (MILK)	Its name starts with O.
	What is it? (ORANGE)

(You can think up others. Ask questions related to names of foods.)

i. Creative Arts--Collage or mosaic using different kinds of foods, such as raisins, marshmallows, spaghetti, popcorn and beans. (While children are making their collage the teacher could ask child to name foods. Children may want to taste edible foods which should be encouraged.)

j. Read Story--<u>Blueberries for Sal</u> by Robert McCloskey. (Discuss and taste blueberries. Stab canned or frozen with tooth picks. Drop in pancakes. Ask children to name food.)

CONCEPT II. WE LIKE SOME FOODS MORE THAN OTHERS.

(This concept encourages the student to demonstrate a positive attitude toward all foods and display a willingness to try new ones. Be realistic about individual preferences so that children learn to make selections from the basic food groups. Choosing foods from the basic four food groups can satisfy individual differences and provide an adequate diet. Pupils should know some factors which influence our food likes and dislikes. For example: availability of foods, location of where one lives, religious beliefs, parental likes and dislikes, food preparation, participation in school lunch, pleasant eating conditions, exposure to a wide variety of foods when young.)

a. Bulletin Board--Let each child place a picture of his favorite food on the bulletin board. (Discuss how we like some foods more than others. We can each try one bite so we can learn to like foods.)

b. Manipulative, Math--Use embroidery hoops or shoe box lids. Have children sort the different kinds of foods, by color, by like types, according to likes and dislikes. (Discuss why we should eat many kinds of foods. What do boys and girls across the ocean eat? Encourage children to develop the "two-bite club" attitude; the "I like to try it" attitude.)

c. Sing--"MILK" (Tune: "Old MacDonald")
M-I-L-K That spells milk
I drink it every day
It makes me healthy and makes me strong.
It comes from cows they say
MOO- MOO- MOO- MOO- MOO-
M-I-L-K

(Take a polaroid picture of each child, frame in dark blue paper. Make a slit in mouth, insert a straw in the mouth and insert the other end of straw into an empty milk carton which is pinned on the bulletin board. Caption: "WE LIKE MILK.")

d. Story--Mexicali Soup, Hitte, K. Parent's Magazine Press, 1970.
Mother makes "soup" leaving out all the food each family member doesn't want and ends up with an empty pot and no soup. (Why didn't they have any Mexicali soup? How could they make it?)

e. Story--Green Eggs and Ham, Dr. Seuss, Beginner Books, 50 word vocabulary.
Sam-I-Am finally persuades his friend to try green eggs and ham and he likes them after all. (Why wouldn't Sam-I-Am's friend try the green eggs and ham? What happened when he finally did try them? Are there really such things as green eggs and ham?) (Add food coloring to eggs and cook scrambled. Eat.)

f. Story--Bread and Jam for Frances, Russel Hoban, Scholastic Book Services, 1967.
Raccoon Frances loves only bread and jam. She becomes tired of that and starts trying new foods. (What kind of foods did Frances like to eat? What happened when she ate only those? Why do we need to eat different kinds of foods? Have children repeat some of the poems in the story.)

g. Favorite Food Booklet--Have children look for pictures of favorite food. Cut out and glue to booklet. (Be sure picture and name of food correspond. Why do you like this food? How did you learn to like it?)

h. Draw--Draw and color a picture of your favorite foods. Variation: Father's favorite foods. (I wonder why father learned to like this or these foods?)

i. Book--First Steps to Health, Byrd; Jones. Laidlaw Brothers Pub., Chapter 4.
"Old Friends and New Friends," story discusses food as familiar friends and as new friends. Stresses that we should be willing to try new foods. What new foods have you tried lately? How many foods are there in the world to eat? Could we ever taste them all?)

j. Puppet Drama--Dramatize the fun of trying new foods through pirate puppets discovering treasure chests filled with new taste treats. (Discuss the importance of trying new foods. Use basic puppet pattern on page 18.)

k. Tasting Party--Have each child bring some food from home. Examples: fruits, vegetables, cereals, yogurt, cheese, crackers, etc. (School lunch room perhaps could work with you and furnish some food.) Discuss which ones children have all tasted. Have not tasted. Paper plates, paper towels, nut cups and plastic spoons are convenient to use for serving only a teaspoon full for first trying. This small serving encourages the child to try food and requests for seconds encourages others to eat theirs. (Discuss factors that influence food likes and dislikes.)

CONCEPT III. IT IS FUN TO LEARN TO EAT A WIDE VARIETY OF FOODS.

(It is necessary to learn to eat and enjoy a variety of foods because a variety will help to insure a balanced diet for the child and result in the establishment of a foundation for good food habits. Many kinds and combinations of food can lead to a well-balanced diet. No food by itself has all the nutrients needed for full growth and health.)

a. Baby Picture Bulletin Board--Have each child bring in his baby picture to show how he has grown. (Discuss the foods that helped them to grow. Measure and weigh; keep health charts.)

b. Game-- Food Basket Upset--Give each child a picture of a food. (Will the noodles stand up? Will the muffins trade places? Will the apples jump up and down? Will the pork chops clap their hands? Will the ice cream cones say, "yum, yum"? What are noodles, muffins, apples, porkchops and ice cream? All foods have a name. There is a wide variety of foods we can eat.)

c. Guest Speaker--Invite resource person who is knowledgeable about nutrition; such as school nurse, a doctor, health official, school lunch cook, or parent. Be sure person brings actual foods, pictures, etc. (Have children tell you what to write to invite guest. Help children think of questions to ask speaker. Example: What foods should we eat for health? Why do you like to try new foods? Would you try new foods that you see advertised on TV? Why do we need a variety of foods? Would you like to eat the same food every day?)

d. Song--"MEAT, MEAT, MEAT" (Tune: "Three Blind Mice")
Meat, meat, meat, We all need meat. Why, why, why, Do we need meat?
Because we need protein, to help our minds and bodies grow, and keep us healthy,
We must eat meat. (Ask: Why do we need meat? Name some meats. Role play dinner at home and eating meat. Stress trying different kinds of meat. What is your daddy's favorite meat? Sing song often.)

e. Tasting Party--To introduce the children to a wide variety of foods have a tasting party. Let children prepare foods. Taste and discuss a wide variety of foods; some familiar and some unfamiliar. Name all the foods you can think of. Name all the foods that are red. (Example of foods to taste: raw vegetables, such as cauliflower, cabbage, turnips and stuffed celery; fruits, coconut, nuts, popcorn, cheese, and meat on toothpicks. Why is it fun to try a variety of foods? Which foods do you like? What was the favorite food for the class? Which foods had you not tasted before?)

f. Flannelboard--Smile, Ralph, Smile. Sunkist Growers, Inc., 3 stories 50 cents. A fun story of snacks and nutrition illustrated by using ready to cut colored pictures for flannelboard. Story included. (What snacks make Ralph the dinosaur smile? Would you like these foods? Why should we try these foods?)

g. Color--Alexander's Breakfast Secret Activity Sheets # 1 and # 2. Cereal Institute. (How do these foods help us? How can we learn to eat a wide variety of foods? Have you tried a new food? Pizza? coconut? canned pudding? How did you learn to like it?)

h. Puppets--Food models on dowel sticks. Each puppet says a little rhyme and ends by having child guess name of food. (Example: My name is Artie, Artie Artichoke, I come from vegetable land, eat me with butter any time you can. Would you like to try eating this food?)

i. Dramatic Play--Set up pretend grocery store. Provide cereal boxes, milk containers, fruit models, cans of food, paper sacks, cash register, purses, billfolds, etc. (Encourage children to pretend going to the store to buy a variety of foods. Ask did you buy only one kind of food? I wonder why you didn't. Talk to the children about eating a variety of good foods.)

j. Dramatic Play--Set up pretend grocery store. Provide cereal boxes, milk containers, fruit models, cans of food, paper sacks, cash register, purses, billfolds, etc. (Encourage children to pretend going to the store to buy a variety of foods. Ask did you buy only one kind of food? I wonder why you didn't. Talk to the children about eating a variety of good foods.)

k. Creative Arts--Spatter paint using paper food shape patterns. (Discuss names of the food shape the child is using. Ask why we need to eat this food. Have you tried tasting this food?)

CONCEPT IV. FOOD IS GOOD FOR US.

(Foods are friends because food is essential. We need to eat food for these reasons: to live, to grow, to keep healthy and well, and to get energy for work and play.)

a. Bulletin Board—"Climb Aboard the Food Train"--Engine and four cars, each car carrying pictures of food from one of the Basic Four. (As the child shows interest talk to him about the foods shown and how they help us.)

b. Filmstrip--Right Foods Help Health--Eye Gate House, 2716 41st Avenue, Long Island City, New York. (Tells how the different types of food sustain health. What were some of the different foods talked about in the film? How do these foods help our teeth?)

c. Filmstrip--Healthy Families, Oklahoma State Department of Health, Oklahoma City, Oklahoma 73105
(Zoo doctor tells how he keeps his animal families healthy. What did the animals eat? How could you tell the animals were healthy?)

d. Story--Bread and Jam for Frances by Russell Hoban
(What kind of foods did Frances like to eat? What did raccoon Frances do about this? Why should we eat different kinds of food?)

e. Display--Poster--"Foods You Need Every Day", National Livestock and Meat Board, 36 S. Wabash Avenue, Chicago, Illinois 60603
(Also 3-D models of a variety of foods from each of the Basic Four. Ask children to pick a picture of food or a model and tell something about it. Why should boys and girls like it for a friend? Why is it good for us?)

f. Sorting--Have a variety of food pictures. Sort into hoops or box lids as to food groups. (Ask questions to help children understand the reasons for eating food: to live, to grow, to keep healthy and well, and to get energy for work and play. Try to help children understand that we need to choose foods from the four groups every day.)

g. Book--"About Me," Childcraft, Vol. 14, p. 63.
"Food to Grow On," Pictures show examples of some foods that help the body grow. Some foods help the body stay warm. Some foods help the body work properly. "What foods help us grow? What foods help our bodies stay warm? What foods help our bodies work properly? Discuss, then draw picture of a food and label it correctly.)

h. Dan and Sue Meet the Milk Family, Bread and Cereal Family, Vegetable and Fruit Family, and Meat Family. Dan and Sue meet friendly foods coloring book. Free from Extension service, U. S. Department of Agriculture, Washington, D. C. 20250. (Help the children understand that all foods are good and are friends. Some foods should be eaten first and then foods full of empty calories last.)

i. Wall Mural Game--Label each wall a food group: Vegetables and fruits, milk and milk products, meat and protein foods, bread and cereals. Have children bring pictures from home and let them place on wall. Children should follow directions such as face the meat wall; jump up and down facing the vegetables and fruit wall; flex muscles facing the milk wall; reach for ceiling and pretend to grow big facing the bread and cereal group. You can think of other directions to use. (Why did we pretend to grow when we faced the bread and cereal group? I wonder what the other groups of food do for us? Have children discuss with mother about eating good foods.)

j. Film--Food for Fun, 10 minute color super 8 cartridge/sound; Doubleday. Basic four food groups, illustrated by an imaginative story developed around a young fisherman who uses a miniature Dagwood sandwich as bait. (Discuss.)

CONCEPT IV. (Continued)

k. Song--(Tune: "Froggy Went a Courting") by Kathryn Ohler, Cook Trumann Day Care, Oklahoma City, Oklahoma

Fruits and vegetables, I like them
Yes I do - I do
They give me vitamins and minerals
That's true - that's true
If I eat the very best I can then
I'll grow up to be a strong man.
(Repeat verse: Using, Then I'll grow up to be a pretty girl.)
(Talk with the children why foods are friends. Why is food good for us? What foods have vitamins and minerals?)

l. Vegetable or Fruit Fair--Fruit trees--Branches of trees with fruit taped or secured to limbs are set up. The teacher describes a particular fruit including its value to good health. The children take fruit from trees as it is described and identified. Fruit is then washed and eaten for snack or used for a cooking experience. (Discuss vegetables and fruits are good for us.)

m. Tasting Party--Use a wide variety of vegetables and fruits in several forms; dried, raw, cooked and in the juice form. (I wonder what this could be? What does it do to make us healthy? Why should we eat fruit every day? Why is it a food friend?)

n. Field Trip--Visit Fruit Stand--(Have owner show fruits he sells, how he takes care of them, how to choose the best fruits to buy. Pick out fruit for lunch or snack. Wash and have children prepare for eating. Math concepts of half and many pieces may be included here. Seeds may be looked at. Eat and enjoy for lunch. Try to create a favorable attitude and a willingness to try food.)

o. Dramatic Play--Set up counter with appropriate props; bags, fruit models, boxes, cash register. Let children act out visit to fruit stand. (Ask questions to help children understand fruit is a food friend.)

p. Story--Stone Soup by Marcia Brown. There is also a play version of this that works well with young children for a program. Panorama, Houghton Mifflin Readers, 1971, p. 116.)
(What kind of soup were the soldiers going to make? What were they going to make it with? What kind of foods did they finally use? Would it be good for us? Prepare and eat stone soup.)

q. Read to the children any of the following stories:
Carrot Seed by Ruth Krauss,
Blueberries for Sal by Robert McClosky,
Curious George and the Cocoanut by H. A. Rey,
Rain Makes Applesauce by Julian Scheer.
(Discuss in relation to concept we need plant foods to live. Ask what food friend was the story about. What are some other fruits we could eat? What did the children use to make applesauce? How did they go about making it? Would you like to make some?)

r. Cooking--Make applesauce--Return to fruit stand to buy apples, have children make list of ingredients needed, make the applesauce and put in individual containers that each child may take home. (I wonder if applesauce is as good for us as apples are? What does applesauce do to help us be healthy? Ask mother if she makes applesauce.)

s. Corn on the cob. Have children examine their ear of corn with shucks still on it. (What is that "hairy stuff" for? I wonder if that's the part you eat? How do you get the corn out?) Shuck corn, clean and wash. Cook corn and eat it. (What kind of food is corn? Has anyone ever had corn fixed another way? I wonder what corn does to keep us healthy?)

CONCEPT IV. (Continued)

t. Film--Milk & Milk Foods (16 mm, 14 minutes, 1969), Coronet Films, 65 E. South Water Street, Chicago, Illinois 60601
(What foods did you see? Which one do you like best? What are some of the different foods made with milk? Which do you like to eat? Why do we need milk each day?

u. Filmstrips--Our Trip to the Dairy Farm, by National Dairy Council. (Discuss.)
v. Filmstrip--My Dad Is a Dairy Farmer--Long Filslide. (Discuss.)
w. Filmstrip--Uncle Jim's Dairy Farm--Associated. (Ask questions.)

x. Tasting--Taste milk products. Ask children to taste whole milk, skim milk, half-and-half, butter, cheese, ice cream, whipped cream, etc. Whole milk can be flavored with a few drops of vanilla and/or food coloring. Straws also help children enjoy drinking milk. (Ask, why should we eat these foods? Emphasize milk is needed for strong teeth, growth, etc.)

y. Music--make chocolate or strawberry milk. Add instant mix to cold milk in baby food jars. Shake jar to music. Shake to fast music, slow, have children shake on top of their heads, under legs, lying down. Pass out straws and drink from jar for snack or lunch. (I wonder what those bubbles are? Discuss using other problem solving questions.)

z. Cooking--Make chocolate pudding. Serve for lunch or snack. Instant pudding mix in baby food jars with cold milk and children shaking makes an easy fun way to prepare pudding. (Discuss and hold up pictures of other foods that have milk in them.)

aa. Finger Paint--With different flavors of pudding. (What do we use in pudding? Where does milk come from? What food are you finger painting with? Other varieties of finger paint include peanut butter, jelly, or frosting. Use clean trays because children may want to taste pudding, etc.)

bb. Song--(Tune: Yankee Doodle")
If you would be a sturdy lad or healthy rosy lass,
Then drink a quart of milk each day, And every test you'll pass.
Milk, just milk is something great. It always makes you richer,
In iron, muscles, bone, and blood. You'll be a healthy picture.
Through winter snow, and summer heat, Milk helps to keep us healthy.
It's food for all, and can't be beat, for poor and for the wealthy.
Health, Elementary Guide and Policies, Beloit, Wisconsin Public Schools, 1966.
(Hold up pictures of milk products and discuss them as food friends.)

cc. Make Butter--Use whipping cream to make butter by shaking in a fruit jar or using a rotary beater. (Ask questions: When do we eat butter? Where does it come from? What foods do we put butter in or on?) Read and show from Childcraft, 1967, "Where Does Butter Come From," Vol. VII, 51.

dd. Make ice cream. Prepare large ice cream cardboard puppets. Children can freeze own ice cream in metal juice cans and a milk carton to hold ice and salt mixture. (Discuss in relation to friend milk. Can we get milk in other ways besides drinking it? Name some ways: ice cream, soup, puddings, etc.)

ee. Field Trip--Visit a Dairy Farm. See milking room, cooler, calves, milk cows, pastures, and other things. (Think of questions to make and stimulate children's thinking. Example: I wonder what the cows eat? How does the cow get milked? Where does she stand? How does the milk get to town? Why should boys and girls drink milk?)

ff. Creative Arts--Make a mural of "Our Visit to the Dairy Farm" using Polaroid pictures of the actual field trip. (Have children draw and color or paint mural of pictures. Discuss need for milk and milk products.)

CONCEPT V. EATING BREAKFAST IS IMPORTANT AND CAN BE FUN.

(A variety of food served at intervals throughout the day is important. The breakfast meal is perhaps the most important. We need to guide the child and provide varied experiences so that he learns eating breakfast is important and establishes this good eating habit for life.)

a. Filmstrip--Alexander's Breakfast Secret, sound on record (Cereal Institute). (Discuss the need for food to get a good start in the morning. I wonder if we could eat hamburgers, soup, ice cream, cottage cheese for breakfast? Yes.)

b. Film--Bill's Better Breakfast, 25 minutes, Oklahoma State Dept. of Health. (A puppet show teaching the need for good breakfast. Ask children what they eat.)

c. Film--Breakfast..I Love You, 16 min. Sound, Modern Talking Picture Service. (Freddie, the bear, is hero who gives advice on the importance of breakfast. Discuss concepts from film. Emphasize we should eat something when we get up.)

d. Telling Time--Have children tell about a breakfast they like to fix without cooking. Help the children learn many foods that they could get ready themselves. (Do you fix your own breakfast?)

e. Art--Make a picture of a food you like for breakfast. A special breakfast. An unusual breakfast. A camping breakfast. (Discuss with children and ask them questions related to the importance of breakfast.)

f. Breakfast Game--Cardboard food models. (Dairy Council, Free.) Allow children to assemble their own breakfasts. (Let's count the kinds of foods that you have. Is that a nutritious breakfast? What will it do for your body?)

g. Story--Ice Cream for Breakfast, Brown, M. Franklin Watts, Inc., 1963. (Children fix breakfast for mother; waffles, coffee, juice and ice cream, which they finish eating. Did the children fix a good breakfast? What do you think about eating ice cream for breakfast sometimes? Emphasize children could fix their own breakfast of ice cream if their mothers were at work or not up.)

h. Puppets--Have puppet display lots of pep and energy after breakfast while another puppet is droopy, tired, lags behind after he has skipped breakfast. Use other "food" puppets and stress all the breakfasts that your pupils could fix by themselves. Use boy and girl puppet to plan all types of menus that children could prepare without using heat. (Mother could leave soup in thermos, hard cooked egg, milk in small measuring cup, etc. Many mothers would do such if child asked them.) (All foods are good to eat for breakfast. It is better to eat a food from each of the basic four food groups. Hamburgers, pizza, soup, ham and beans, fresh fruits, ice cream, cereal cookies are good foods to eat for breakfast.)

i. Cooking and Tasting Experience--Have children taste different kinds of bread. (Rye, white bread, pumpernickel, whole wheat. A variation is to let children spread peanut butter on the bread for sandwiches. Make cinnamon toast, egg nog, pancakes, French toast, grilled cheese sandwich or other cooking experiences.)

j. Mosaic Project--Different types of cereal, glue and a little imagination can create exciting fun. (As child is working with materials ask child to name cereals. When could we eat cereal? Why should we eat cereal? Can we eat it other ways than in bowl with sugar and cream? Cookies, in soups?)

k. Guess, Guess Riddles--(Use a picture to reinforce learning.)

It is a cereal. You eat it hot. Its name starts with O. What is it? (OATS)	It is a round circle. The center hole is not there. It is a kind of bread or cereal. What is it? (DOUGHNUT)	It is not a cereal. It is a pretty color. It is good for breakfast. Its name starts with O. What is it? (ORANGE)

l. Sing. "ABCD-ENERGY"--(Free on record from Cereal Institute, Inc. The words and music for "ABCD-ENERGY" may be found on page 8.)

Song taken from Cereal Institute, Inc.

YOU CAN BE A BETTER YOU

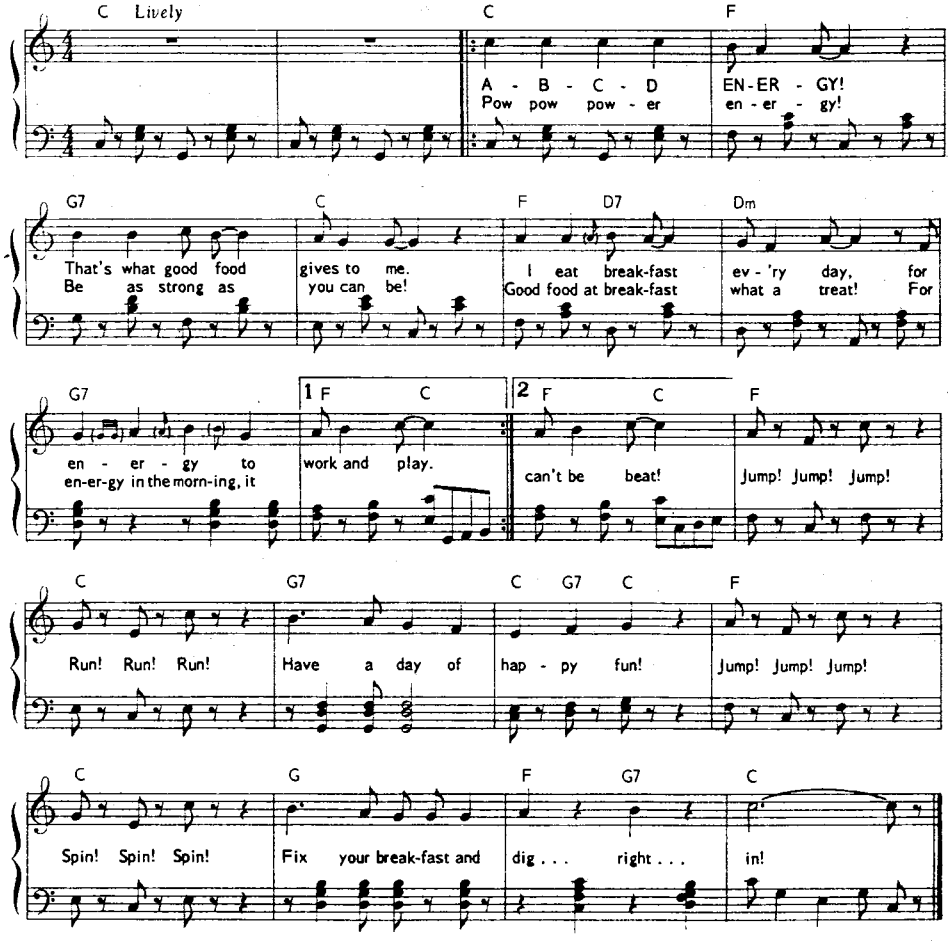
YOU CAN BE A BETTER YOU—
A HEALTHY AND A HAPPY AND A
STRONGER YOU.
HERE'S A LITTLE SOMETHING
THAT YOU CAN DO
TO BE A BETTER, A BETTER
BETTER YOU.

A REAL GOOD BREAKFAST
SHOULD START YOUR DAY.
YOU NEED TO EAT AND SLEEP
AND REST SO YOU CAN PLAY.
YOU'LL FEEL SO GOOD THE
WHOLE DAY THROUGH,
AND YOU'LL EVEN RUN *FASTER*
AS A BETTER BETTER YOU.

A BREAKFAST FULL OF ENERGY
IS A-O.K.
TO HELP YOU THROUGH A BUSY
BUSY DAY.
ALL THROUGH THE MORNING
YOU WILL FEEL JUST FINE,
IF YOU START THE DAY WITH
GOOD FOOD AT BREAKFAST
TIME.

ALL THROUGH THE MORNING
YOU WILL FEEL JUST FINE,
IF YOU START THE DAY WITH
GOOD FOOD—*EVERY*
BREAKFAST TIME!

ABCD-ENERGY!



SECTION II.

SUGGESTED COOKING ACTIVITIES RELATED TO:

CONCEPT I. ALL FOODS HAVE NAMES.

(The following cooking experiences are designed to help students grasp the designated concept. Some of these cooking activities should be selected to be used along with activities and experiences for the concept in section one. Please remember that the recipes under any one concept are not sacred to that concept. Feel free to use those cooking activities under any concept if you feel it enhances the students' understanding of the concept you are teaching. Some may be used more than once to teach different concepts.)

a. Make Flour--Place 1 c. wheat kernels in blender container; run blender for 40 seconds. (Be sure wheat is not treated and is good for human consumption.)

b. Fruit Salads--Wash, cut up, add small amount of sugar if desired; coconut optional.

c. "Some Mores"--2 graham crackers (one for top and bottom of sandwich)
2 squares of chocolate candy bar
1 roasted marshmallow
Place ingredients one on top of the other and top with second graham cracker.

d. Let children shell and cook peas.

e. Roast pumpkin seeds and eat. (Heat in 350° oven, stir often; melted butter and seasoned salt add to the taste if used while roasting.)

WHOLE-GRAIN WHEAT BREAD

Grind: 1½ C. whole grains of wheat (this may be done in a coffee grinder or in an electric blender; be sure the hulls are finely ground.)
Combine in large mixing bowl:
4 C. all-purpose flour (the ground whole wheat)
Heat to lukewarm: 2 c. milk; cool slightly, then mix into milk: 2 cakes of yeast.
The mix into milk mixture:
¼ c. sugar ½ c. margarine or butter
2 tsp. salt 2 eggs
Add milk mixture to flour in the large bowl. Mix until all flour is dampened. Then turn out on floured, clean surface and knead until the dough loses its stickiness and is smooth and elastic. (The more the children play [knead] the better it will be.

Place dough into large (preferably clear), greased bowl; turn the dough to grease the top to prevent a hard crust from forming. Let the dough sit in a warm place until it has doubled in bulk (about 1½ hours). (Cover with Saran wrap before starting it rising.)

Shape into 2 loaves or 5 dozen rolls. Put in greased pan, cover, let rise again until double (about 1 hour).

Bake 40-45 minutes at 375° (loaf). (Rolls will bake about 20-25 min.)

SUGGESTED COOKING ACTIVITIES RELATED TO:

CONCEPT II. WE LIKE SOME FOODS MORE THAN OTHERS.

(The following cooking experiences are designed to encourage the student to demonstrate a positive attitude toward all foods and display a willingness to try new ones. Some recipes are for foods that are familiar and others unfamiliar to children.)

a. Colored Milk (purple cows)--Add a few drops of vanilla and a teaspoonful of sugar to each glass of milk and let children select food coloring or 2 T. frozen grape juice, to stir in.

b. Jello Pops--Dissolve 1 package jello and ½ cup sugar in 1½ cups boiling water. Add 2 cups orange juice. Freeze in ice cube trays or small paper cups. Sticks may be inserted when partially frozen.

c. Chocolate Oatmeal Crisps--In large saucepan melt ½ c. butter or margarine; add ½ cup milk, 2 cups sugar, ¼ cup cocoa. Stir over medium heat until sugar is dissolved. Bring to a boil and boil for 3 minutes. Remove from heat, add ¼ c. peanut butter, 1½ t. vanilla, 2 c. oatmeal. Drop the warm mixture by teaspoonfuls on waxed paper. Cool. Eat.

d. Cracker Squares--Crush and set aside 24 soda crackers. Boil for 5 minutes 2 cups sugar and 2/3 cup milk. Add 7 tablespoons peanut butter, ¼ teaspoon ginger, and cracker crumbs. Mix and spread in greased shallow pan to cool. Cut in squares.

e. Jack-O-Lantern Pumpkin Pie--Peel and cut up remaining part of jack-o-lantern into 1 inch cubes. (enough to yield 1½ cups cooked pumpkin) Cover with water and boil until mushy. Drain, put pumpkin through sieve. Store in covered container in refrigerator until ready to use. *May use canned pumpkin. Recipe is for one 9 inch pie.

2 eggs, slightly beaten
*1½ cups pumpkin
3/4 cup sugar
½ teaspoon salt
1 teaspoon cinnamon
½ teaspoon nutmeg or ginger
¼ teaspoon cloves
1 2/3 cups evaporated milk
1 9" unbaked pie shell

Mix filling ingredients in order given. Pour into pie shell. Bake in preheated 425° oven for 15 minutes. Reduce temperature to 350° F and continue baking for 45 minutes or until knife inserted into center of pie filling comes out clean. Cool. Garnish if desired. (The filling may be poured into custard cups or pie pan without crust and baked. May place containers in electric skillet surrounded with hot water and cook until filling is set.)

f. Popcorn Balls

1 c. granulated sugar
1 c. brown sugar
½ c. water
½ c. white corn syrup
2 T. butter or substitute
½ t. salt
½ t. vanilla
Popped corn as required (about 3 quarts)
(Food coloring may be added to cooked syrup.)

Cook sugar, syrup, and water to soft crack stage (270-290° F.). Watch carefully and stir occasionally toward last of cooking to prevent burning. Add butter and flavoring. Stir only enough to mix. Pour slowly over popcorn which has been salted. Mix well, then form into balls with hands pressing as little as possible. Puffed rice may be substituted for popcorn. 10 balls, 3" in diameter.

SUGGESTED COOKING ACTIVITIES RELATED TO:

CONCEPT III. IT IS FUN TO LEARN TO EAT A WIDE VARIETY OF FOODS.

(This wide variety of cooking experiences with many different kinds of foods will help students grasp the concept that many kinds and combinations of food can lead to a well-balanced diet.)

a. Fruit Shake--Combine in 1 quart plastic container:
(2 cups cold juice (orange, grape, pineapple)
½ cup powdered milk
1 drop vanilla
Add crushed ice and shake until smooth.

b. Prepare Jello--Can serve quickly if use 10 ice cubes in place of cold water. Pour into small (3 oz.) paper cold drink cups and refrigerate.

c. Pizza with English Muffin halves, tomato sauce, cheese and a variety of toppings.

d. Pigs in Blankets--Roll refrigerator biscuits flat; place 1/3 hot dog at one side, roll up; brush milk on outside; bake about 8 minutes at 400°.

e. Cook macaroni or spaghetti; serve with canned seasoned sauce.

f. Gingerbread Boys--Blend 1 pkg. gingerbread mix and 1/3 c. lukewarm water. Chill thoroughly (1-2 hours). Roll small amount of dough at a time (keeping remainder in refrigerator) 1/8" thick on lightly floured board. Cut. Place on lightly greased baking sheet. Bake 8-10 minutes at 375°.

g. Strawberries--Mix 4 small pkg. strawberry gelatin, 1 can condensed (Eagle Brand) milk, 1 can Angel Flake coconut. Place in refrigerator overnight. Shape into strawberries. Roll in another box of jello. Color almond slivers green with food coloring for stems.

h. Peanut Butter
2 cups toasted peanuts
2 T. salad oil
Put through blender.
Add salt to taste
(Use in peanut butter cookies)

i. Peanut Butter Cookies

1½ c. sifted flour	1 egg
1 t. soda	Dash of salt
½ c. white sugar	½ c. peanut butter
½ c. brown sugar	½ c. butter or oleo, melted

Sift flour and soda together once. Mix together dry ingredients. Add peanut butter, butter, and egg. Make into small patties, place on oiled cookie sheet 3 inches apart, and press down with fork. Bake at 375° until light brown. Makes 3 dozen cookies, mild in flavor.

j. Easy Candy--2 cups powdered sugar
¼ cup peanut butter
½ cup cocoa
2 T. milk
Mix all ingredients in a large bowl. Shape in small balls or logs. No cooking necessary.

SUGGESTED COOKING ACTIVITIES RELATED TO:

CONCEPT IV. FOOD IS GOOD FOR US.

(The cooking experiences suggested for this concept suggest that all foods are good. Food is essential for us to live. Many recipes are provided to help children grasp the concept that foods are good for us.)

a. Fruits and vegetables--weigh, wash, peel, touch, taste, observe seeds, count seeds, plant seeds.

b. Make fruit juice, using reamer and oranges, lemons, or limes.

c. Lemonade--Let children pick lemons, squeeze them and do the measuring and mixing whenever possible. Dissolve ½ cup sugar in ½ cup hot water. Add juice of 4 lemons, 4 cups cold water, and a tray of ice cubes. Stir with wooden spoon and add food coloring if desired.

d. Cranberry Orange Relish--Grind in food chopper 1 lb. cranberries, and two oranges (use only peel of about 3/4 of one). Combine with 1 cup of sugar. Chill and serve.

e. Waldorf Salad--Let children cut up marshmallows, apples, banana, pineapple, and other fruit for Waldorf Salad. (Squeeze orange or pour pineapple juice over fruit to prevent turning brown.) A spoon of whipped topping mix or salad dressing may hold ingredients together.

f. Fresh Applesauce--Wash 2 apples, cut into 1-inch cubes. Put in salted cold water to keep them from turning brown. Put ¼ cup water, 1 T. lemon juice, and half the apples in blender container; cover and blend until a puree consistency. Add remaining apples and 2 T. sugar and blend until all sauce is a fine consistency. Serve immediately.

g. Apple Sauce Cooked-- 6 apples, peeled, cored, and sliced. (Children can use a peeler quite well.)
½ cup sugar
1½ cups water
Cinnamon
Cook apples in water until tender. Add sugar and cinnamon.
Heat slightly.

h. Vegetable Salads--Use lettuce and vegetables. Children may tear lettuce leaves into small pieces.

i. Potato Salad--Let children dice cooked potatoes for salad.

j. Stone Soup--Into large pan place smooth clean stones, add vegetables, bouillon, seasonings; cook and serve. (Be sure to read story "Stone Soup.")

k. Prepare instant pudding in jar with tight lid. (Quart may be used for 4 oz. package or babyfood jar for smaller amounts.)

l. Make Butter. Beat sweet whipping cream at room temperature until cream turns to butter; pour into sieve. After draining out liquid, wash remaining butter with cold water. Press out excess water, salt. Serve on crackers. (Recipe on next page.)

m. Jelly--Combine 1 pkg. plus 2 Tbsp. powdered pectin with 2 cups cold water; stir well and let stand 45 minutes. In a different bowl combine 1 3/4 cup sugar, one 6-oz. can grape juice; stir. Then after 45 minutes, add 2 cups sugar to pectin and water mixture; stir well. Then combine pectin mixture with grape juice mixture. Pour into clean small jars; refrigerate. (Make nice Christmas gifts.)

COOKING ACTIVITIES RELATED TO CONCEPT IV. (Continued)

BUTTER

A rotary egg beater in a fitted bowl, or a small churn (pint jars with tightly fitted screw caps may be used instead; or the children in one group might use the beater and bowl, or a churn, and those in another group a jar.)
Utensils needed:

Small mixing bowl
Wooden spoon or paddle
Measuring cups; Measuring spoons
Knife
Toothpicks for tasting butter
Small paper cups for tasting
Buttermilk; Salt
Whipping cream (minimum butterfat 30%)
(½ pint of cream makes 1/3 cup of butter)

Note--if ripened cream is secured from a dairy, the butter forms more quickly and the buttermilk has the tangy taste. Regular whipping cream, however, is quite satisfactory for this classroom use.

Keep cream cold. Take it from refrigerator about 10-15 minutes before churning, so it is at room temperature. Have utensils clean. Measure the cream. Beat, or churn, or shake it, until small lumps of butter form throughout the cream (20 to 30 minutes). Each container should be about half full of cream. Children may take turns beating, churning, or shaking the cream. Pour off the buttermilk. Put the butter in small bowl. Work remaining buttermilk out of butter with wooden spoon or paddle. Wash butter several times with cold water. Add ¼ teaspoon of salt for each cup of cream used. Children may spread on crackers or bread for snack.

ICE CREAM

3 eggs
1½ cups sugar
pinch of salt
5 cups of light cream (or can use ½ pint whipping cream and milk)
3 Tablespoons vanilla

Beat eggs well, add sugar slowly and continue to beat. Add other ingredients and stir. Freeze. For 25 children. Use large freezer and let children turn crank. Try to have plastic clear lid on can so children can observe ice cream freezing. (Children may each freeze own by using metal juice can for freezer can, milk carton for freezer and spoon or tongue depressor to stir.) This is so much fun this method. Have children sit on sidewalk and enjoy the outside. You'll need seconds.

STONE SOUP (Vegetable Soup)

*1 pound stew meat or ground beef
1 (16 oz.) 1 lb. can tomatoes
3 cups tomato juice
3 carrots
3 stalks celery
4 potatoes
1½ t. salt
½ t. pepper
¼ t. chili powder
1 T. onion salt

Place three clean medium size stones in electric skillet. Add stew meat and brown at low heat. Add tomato juice and seasonings. Simmer until meat is tender. Scrub carrots, celery, and potatoes under fresh water. Peel vegetables. Dice vegetables. Add vegetables to meat mixture. Cook until vegetables are tender. 15 child size servings. *Beef bouillon cubes may be substituted.

SUGGESTED COOKING ACTIVITIES RELATED TO:

CONCEPT V. EATING BREAKFAST IS IMPORTANT AND CAN BE FUN.

(The following cooking experiences are designed to help students understand that many kinds of foods can be selected for breakfast. Breakfast menus do not have to be the traditional ones. It is fun to eat breakfast when one may select from the wide variety of suggested cooking activities. The body needs food after it has been without food for a long period of time. Eating breakfast is a habit one should establish.)

a. Egg Nog

1 egg, well beaten	Few grains of salt
3/4 T. sugar	Flavoring, as extracts or spices
2/3 c. milk	(nutmeg)

Add sugar, salt, and flavoring to well beaten egg. Mix well. Add milk gradually. Strain, chill, and serve. (Egg nog may be prepared in a shaker containing a small amount of cracked ice. A glass jar may be used when a shaker is not available.) 1 serving, 1 cup. (For young children ¼ cup is enough for tasting.)

b. Prepare cinnamon toast--toast in toaster, butter, sprinkle with sugar and cinnamon that has been put in salt shaker.

c. Prepare French Toast--Beat 2 eggs well, add 2 T. milk, ¼ t. salt, mix well. Dip slice of bread in mixture. Fry until golden brown. Serve with honey, jelly or butter and syrup.

d. Eggs in a Nest--Cut a center hole from a slice of bread with a cooky cutter; butter both sides of bread. Brown one side in a frying pan; turn over and pour egg into center, cover pan and allow egg to coagulate. Salt and lift out with pancake turner.

e. Hamburgers--Let each child shape and season his own meat patty. After cooking, let him add catsup, pickle, lettuce, mustard, etc. to his sandwich.

f. Prepare condensed soup for an interesting breakfast. Soup, hamburgers, pizza, ice cream, and cheese are good foods to eat for breakfast. All foods are good for breakfast. It is a good idea to eat a food from each food group.

g. Prepare quick cooking or instant cereal. Serve for snack.

h. No-Bake Cookies--½ cup corn syrup
½ cup peanut butter
Stir in 3 cups crunchy cereal. Shape into balls.

i. Whole wheat bread--Make bread dough, shape into rolls and one loaf of bread.

j. Ice Cream Cone Cupcakes--Prepare 1 package cake mix according to directions. Pour batter into flat-bottomed ice cream cones about 3/4 full. Bake in moderate 350° oven about ½ hour or until lightly browned. Frost and decorate as desired. These cupcakes look just like ice cream cones when finished.

k. Prepare pancakes. Chocolate chips and blueberries may be dropped on pancakes for variations. (Read, Childcraft, Poems and Rhymes, Vol. 1:132. Read, The Perfect Pancake by Kahl.)

SECTION III.

CHILDREN'S BOOKS THAT RELATE TO FOODS

Baily, Carolyn Sherwin. The Little Red House. Viking, 1957
Brown, Marcia. Ice Cream for Breakfast. Franklin Watts, Inc., 1963
Brown, Marcia. Stone Soup. New York: Charles Scribner's Sons, Inc., 1947
Brown, Margaret Wise and Edith Thatcher Hurd. Two Little Gardeners. Simon and Schuster, 1951
Brown, Myra Berry. Company's Coming for Dinner. Watts, 1959
Curry, Nancy. An Apple Is Red. Bowman Series, 1967
Daugherty, James. The Picnic. Viking Press, 1958
Green, Mary McBurney. Everybody Eats. W. R. Scott, 1950
Gingerbread Boy, The. William Curtis Holdsworth, Ill. Farrar, 1968
Hitte, K. Mexicali Soup. Parent's Magazine Press, 1970
Hoban, Russel. Bread and Jam for Frances. Scholastic Book Services, 1967
Hudlow, Jean. Eric Plants a Garden. Whitman & Co., 1971
Kahl, Virginia. Plum Pudding for Christmas. Charles Scribner's Sons, New York 1956
Kahl, Virginia. The Dutchess Bakes a Cake. Scribner's, 1955
Kahl, Virginia. The Perfect Pancake. Scribner's, 1960
Kessler, Ethel and Leonard. Crunch. Crunch. Doubleday, 1955
Krauss, Ruth. The Carrot Seed. Harper, 1945, 1951
Lenski, Lois. Little Farm. Oxford, 1942
Marino, Dorothy. Buzzy Bear's Winter Party. Watts, 1967
McCloskey, Robert. Blueberries for Sal. Viking, 1948
Minarik, Else. Little Bear. Harper, 1957
Murphey, Sara. The Roly Poly Cookie. Follett, 1963
Norman, Gertrude. Johnny Appleseed. Putnam, 1960
Pickett, Kay. What's for Lunch, Charley and What's for Supper. Price Stern, 1968
Rey, H. A. Curious George and the Cocoanut. Scholastic Book Services, 1941
Sawyer, Ruth. Journey Cake, Ho. Viking, 1953
Schatz, Letta. When Will My Birthday Be? McGraw, 1962
Scheer, Julian. Rain Makes Applesauce. Holiday, 1964
Sendak, Maurice. Chicken Soup With Rice. Nutshell Library, Harper Row, 1962
Sendak, Maurice. In the Night Kitchen. Harper and Row, 1970
Seuss, Dr. (pseud) Green Eggs and Ham. Random, 1960
Seuss, Dr. (pseud) Scrambled Eggs Supper. Random House, 1953
Tolstoy, Alexei. The Great Big Enormous Turnip. Franklin Watt's, 1968
Tudor, Tasha. Becky's Birthday. Viking, 1963
Tudor, Tasha. The Country Fair. Oxford, 1940
Watson, Aldren. My Garden Grows. Viking Press, 1963
Webber, Irma. Up Above and Down Below. Scott, 1943
Webber, Irma. Bits That Grow Big. Scott, 1949
Zion, Gene. The Plant Sitter. School Book Service, 1972
Zolotow, Charlotte. The Magic Word. Wonder Books, 1952

COOKING FOR/WITH/BY CHILDREN

Burdick, Angela. Look I Can Cook, American Heritage Press, McGraw Hill, 1972 Order from 1221 Avenue of the Americas, New York, New York, 10020, $4.95.
Croft, Doreen. Recipes for Busy Little Hands. 1967. R. D. Reed, 18581 McFarland Avenue, Saratoge, California 95070.
Ellison, Virginia H. The Pooh Cook Book. New York: E. P. Dutton and Co., Inc., 1969.
Foster, Florence P. Adventures in Cooking, New Jersey Assoc. for the Ed. of Young Children, 1971. Order from Florence Foster, 810 Harding Street, Westfield, New Jersey, $2.50 plus 50¢ handling.
Kantrowitz, Mildred. I Can Cook Good-bye Kitchen, Parents Magazine Press, New York, New York, 1972.
Moore, Eva. The Lucky Cook Book for Boys and Girls. New York: Scholastic Book Services, 1969.

FREE AND INEXPENSIVE TEACHING MATERIALS

American Bakers Association, Public Relations Department, Suite 650, 1700 Pennsylvania Ave., N. W., Washington, D. C. 20006.

American Institute of Baking, 400 East Ontario Street, Chicago, Illinois 60611. (Food Mobile-Free-Consumer Service Department)

Cereal Institute, Inc., 135 South LaSalle Street, Chicago, Illinois 60603. (Free filmstrip, record and work-sheets)

Continental Baking Company, Home Economics Department, P. O. Box 731, Rye, New York 10580.

Ex-Cello Corporation, P. O. Box 396, Detroit 32, Michigan.

Fruit Company, American Publishing Corp., Waltham, Mass. 02154. (Chiquita, "The Banana", coloring book)

Kansas Wheat Commission, 1021 North Main, Hutchinson, Kansas 67501. (Foodway to Follow, Kernel of Wheat, Poster and other materials)

Kellogg Company, Home Economics Services, Battle Creek, Michigan 49016. (Breakfast Your Way to a Better Day, pamphlet and Good Health Record)

Miles Laboratories, Inc., 1127 Myrtle Street, Elkhart, Indiana 46514. (Come With Us to Vitamin Land, coloring book)

Missouri Division of Health, University of Missouri, Columbia 65201. (Teaching the Young Child Good Eating Habits for Life, Missouri H.E.A., 1971)

National Dairy Council, 11 North Canal Street, Chicago, Illinois 60606. (Catalog)

National Livestock and Meat Board, 36 South Wabash Avenue, Chicago, Illinois 60603. (Ideas for Teacher, Nutrition Education in Elementary Grades)

Nutrition Foundation Inc., 99 Park Avenue, New York, N. Y. 10016. (Activities in Nutrition Education in Kindergarten Through Sixth Grade, $1.00)

Oklahoma Dairy Council, 1700 N. Sooner Road, Rt. 4, Oklahoma City, Oklahoma 73111 or East 15 Street, Tulsa, Oklahoma. (Food models, cardboard food pictures, and many other materials)

Oklahoma State Health Department, Oklahoma City, Oklahoma 73105.

Pillsbury, Minneapolis, Minn. 55400. (Foods in the Space Age)

Standard Brands Educational Service, Box 2695, Grand Central Station, N. Y. 10017. (Mr. Peanuts Guide to Nutrition and guide for teacher; also Young Cook's Bake-A-Bun Book)

Sunkist Dinosaur, Box 453, Reidsville, North Carolina 27320. (Ralph the Purple Dinosaur hand puppet, $1.00).

Sunkist Growers, Inc., 7888 Valley Annex, Van Nuys, California 91409. (Full color flannel board stories, 3 for 50¢)

Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. (Dan and Sue series - 10¢ each - coloring books of four food groups, also Good Foods Coloring Book, [28 pages] 20¢)

Wheat Flour Institute, Department of Distribution, 14 East Jackson Blvd., Chicago, Illinois 60604. (Various materials)

FILM ADDRESSES

Associated Films, Inc., 3419 West Magnolia Blvd., Burbank, California 91505
(Uncle Jim's Dairy Farm)

Avis Films, 2408 W. Olive Ave., Burbank, Calif. 91506
(Four Food Groups, 11 min, color/sound super 8 cartridge

Cereal Institute, Inc., 135 South LaSalle St., Chicago, Ill. 60603
(Free filmstrips, records, Alexander's Breakfast Secret and Skimpy and A Good Breakfast)

Churchill Film Company, 662 North Robertson Blvd., Los Angeles, Calif. 90069
(Pigs, The Cow, Living and Growing)

Coronet Films, 65 E. South Water Street, Chicago, Illinois 60601
(Milk and Milk Foods)

Dairy Council of Metropolitan New York, 60 East 42 Street, New York 10017
(Hey, Cow, 16mm, 10 minutes, sound, color) (segments from Sesame Street)

Doubleday Multimedia, 1370 Reynolds Ave., Santa Ana, Calif. 92705
(Food for Fun, Super 8 cartridge/sound)

Encyclopedia Britannica Educational Corporation, 425 N. Michigan Avenue, Chicago, Illinois 606011 (Posture and Exercise/color)

Eye Gate House, 2716 41st Avenue, Long Island City, New York
(Right Foods Help Health)

Long Filmslide, 7305 Fairmount Ave., El Cerrito, California
(My Dad Is A Dairy Farmer)

McGraw-Hill Textfilms, 330 W. 42nd St., New York, N. Y. 10036
(Foods for Health; Part of series of 6 filmstrips)

Modern Talking Picture Service, 1411 Slocum Street, Dallas, Texas 75207
(Breakfast I Love You; Freddie, the bear, is breakfast hero)

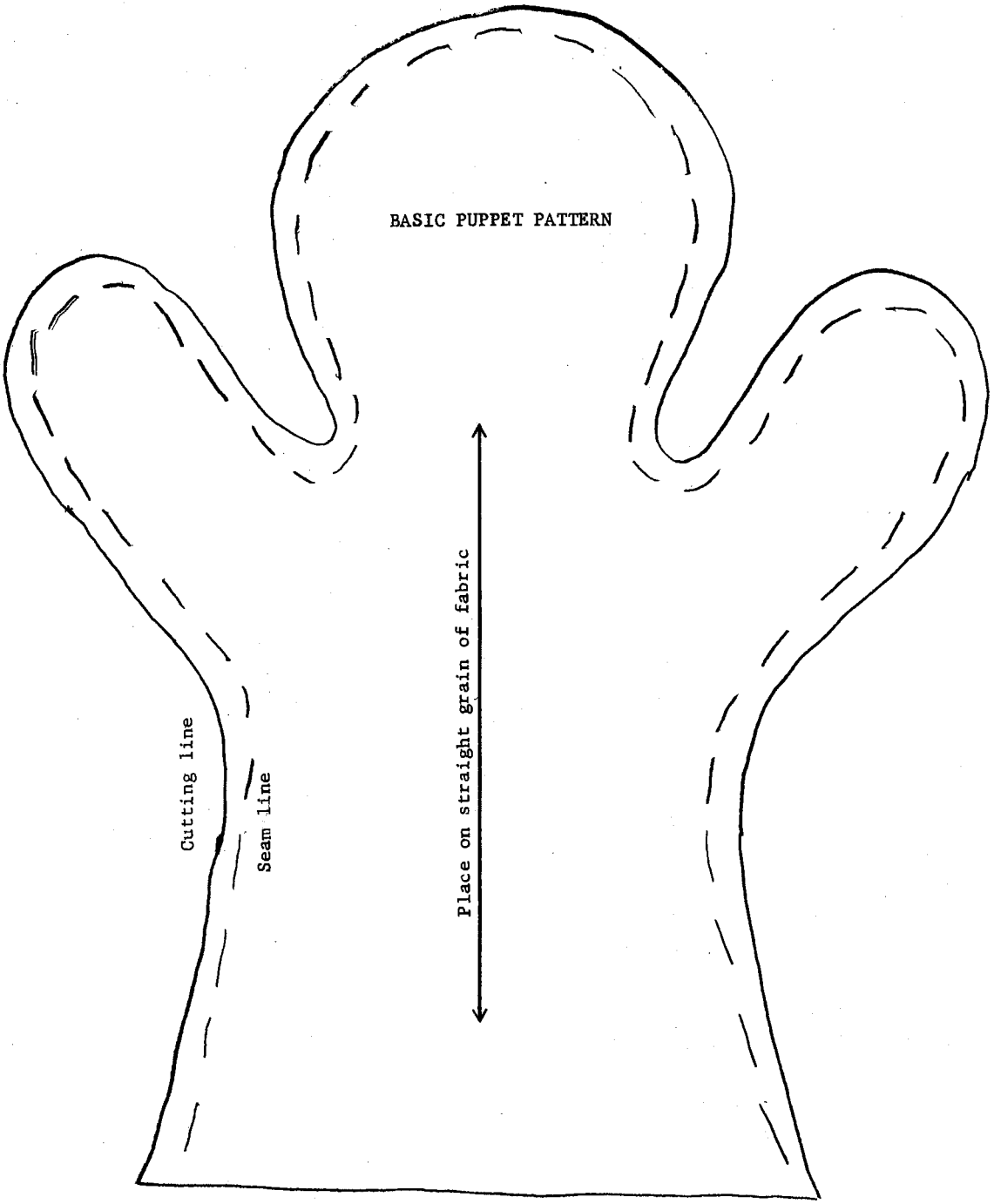
National Dairy Council, 11 North Canal Street, Chicago, Illinois 60606
(Our Trip to the Dairy Farm; Life on a Dairy Farm/filmstrip/free)

Oklahoma State Department of Health, Oklahoma City, Oklahoma 73105
(You and Your Food; Bill's Better Breakfast; puppet show for breakfast)

Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago, Illinois 60614.
(Let's Have a Party, filmstrip, 43 frames, color $6.50--Learning to like a variety of good foods; shows how to conduct a taste party; stimulates interest in improved nutrition.)
(How We Get Our Foods [filmstrips] $6.00 each or $21.60 for the set.
203-1 The Story of Milk/Dairy farm, bottling, to home and market/41 frames).
203-2 The Story of Bread/Harvesting wheat, making flour and bread/46 frames).
203-3 The Story of Fruits and Vegetables/Planting to freezing/41 frames).
203-4 The Story of Meat/Ranches, stockyard, processing/41 frames).

Val Craft Visual Aids to Learning, 2736 Piedmont Ave., Berkeley, Calif.

Young American Film Series
(Classic Story, "The Little Red Hen")



Use coloring books for food pattern ideas to attach to this.

APPENDIX C

EVALUATION INSTRUMENT FOR NUTRITION GUIDE

EVALUATION INSTRUMENT FOR NUTRITION GUIDE

PART I. Circle: SA if you strongly agree with the statement
A if you agree with the statement
D if you disagree with the statement
SD if you strongly disagree with the statement

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. The concepts and/or skills are clearly and accurately stated in simple, child-like terms.	SA	A	D	SD
2. The concepts are within the grasp of kindergarten children.	SA	A	D	SD
3. The activities planned under each concept are closely related to the stated concept.	SA	A	D	SD
4. The activities are within the grasp of kindergarten children.	SA	A	D	SD
5. A sufficient number and variety of activities are planned relative to each concept which indicate a child needs to approach a new idea repetitively and through several different avenues for the concept to begin to stabilize.	SA	A	D	SD
6. A sufficient number of learning activities for the concept have been defined so that the teacher has activities for a range of intellectual levels.	SA	A	D	SD
7. The activities planned in the guide represent a variety of curriculum areas and teaching methods.	SA	A	D	SD
8. Enough detail has been included about each activity to indicate to the teacher how she could use it.	SA	A	D	SD
9. The suggested activities related to each concept involve the child in a personal, direct, sensory-motor way.	SA	A	D	SD
10. The color-coded sections of the nutrition guide aid the teacher in quickly locating materials.	SA	A	D	SD
11. Most of the foods, staples, and equipment needed for the tasting parties are available or obtainable in your kindergarten classroom.	SA	A	D	SD
12. The field trips to a fruit store and a dairy farm would be possible for your kindergarten class to make.	SA	A	D	SD
13. The nutrition guide or similar material should be recommended to other kindergarten teachers for their use.	SA	A	D	SD
14. Poor food habits are considered to be a problem of kindergarten children in your community.	SA	A	D	SD

Circle the appropriate numbers in the columns or check the DO NOT PLAN TO USE column to show your use of the guide.	HAVE USED		PLAN TO USE		DO NOT PLAN TO USE
15. Approximately how many of the films or filmstrips listed in the guide have you used?	0-5 11-15	6-10 16+	0-5 11-15	6-10 16+	
16. Approximately how many of the children's books related to foods listed in the guide have you used?	0-5 11-15	6-10 16+	0-5 11-15	6-10 16+	
17. Approximately how many of the free or inexpensive nutrition education materials listed in the guide have you used?	0-5 11-15	6-10 16+	0-5 11-15	6-10 16+	
18. Approximately how many of the recipes provided in the recipe section of the guide did you use?	0-5 11-15	6-10 16+	0-5 11-15	6-10 16+	

19. With how many addresses or sources are you familiar which offer free nutrition education materials for kindergarten level? ____0-5 ____6-10 ____11-15 ____16 or more

20. What are your plans concerning the song "ABCD ENERGY", page 8 of the guide? (CHECK ONE ANSWER) ____Have used ____Plan to use ____Do not plan to use

21. What is most representative of your usage of the puppet pattern on page 18, of the guide? (CHECK ONE ANSWER) ____Have used ____Plan to use ____Do not plan to use

22. What prevents you from teaching nutrition in your kindergarten class? (CHECK ALL THAT APPLY)
_____Children are not interested in the subject
_____Teacher does not feel comfortable teaching nutrition education
_____Teacher lacks sufficient resource materials appropriate for kindergarten level
_____Class is too large
_____Teacher has no preparation in the subject
_____Curriculum is too full with other things
_____Teacher does not feel it is important at kindergarten level
_____Teacher lacks sufficient knowledge about nutrition
_____Program lacks funds to purchase food
_____Program lacks equipment
_____Management of children during cooking experiences is difficult
_____OTHER? (FILL IN)_____

PART II. EVALUATION OF THE LEARNING EXPERIENCES

DIRECTIONS:
Rate the learning experiences THAT HAVE BEEN USED in your kindergarten program, according to the value you feel each has in providing a means for teaching the concept, by placing an X in the column EXCELLENT, GOOD, or FAIR. If you feel the learning experience should not be suggested in the guide, mark OMIT EXPERIENCE and state the reason for your reply.

	EXCELLENT	GOOD	FAIR	OMIT	REASON WHY EXPERIENCE SHOULD BE OMITTED FROM THE GUIDE
CONCEPT I. ALL FOODS HAVE NAMES.					
a. Read Story--Blueberries for Sal. Discuss, taste and name blueberries.					
b. Dramatic Play--Have children pretend they go to the store; name foods.					
c. Snack--Taste different foods. Have children say the names.					
d. Music--Sing "Old McDonald Had a Farm". Use names of foods.					
e. Art Activity--Collage or mosaic using different kinds of foods which are named.					
f. Visual Aid--Invite a mother to demonstrate bread making. Name foods used.					
g. Feel Box--Place real examples of foods in covered container. Guess name of food by feeling, smelling.					
CONCEPT II. WE LIKE SOME FOODS MORE THAN OTHERS.					
a. Read Story--Green Eggs and Ham; Discuss.					
b. Puppet Drama--Pirate puppets discover treasure chests filled with new taste treats.					
c. Tasting Party--Have each child taste small serving of different foods.					
d. Sing "MILK" (Tune: Old McDonald)--Children's pictures with milk cartons, straws on bulletin board. Caption, "We Like Milk".					
e. Favorite Food Booklet--Cut out and glue to paper for booklet. Discuss.					
f. Bulletin Board--Have each child place picture of favorite food on bulletin board. Discuss why it is liked.					
g. Manipulative Math--Sort foods: by color, types, according to likes and dislikes.					
CONCEPT III. IT IS FUN TO LEARN TO EAT A WIDE VARIETY OF FOODS.					
a. Flannel Board--Use Story "Smile Ralph Smile". Story of snacks and nutrition. Discuss.					
b. Dramatic Play--Set up pretend grocery store. Discuss variety of foods children purchased.					
c. Tasting Party--Let children wash and prepare foods Taste and discuss a wide variety of foods; some familiar and some unfamiliar.					
d. Song--MEAT, MEAT, MEAT (Tune: Three Blind Mice) Name some meats we eat. Why do we need these?					
e. Creative Arts--Spatter paint using a variety of paper food shape patterns.					
f. Baby Picture--Have each child bring in his baby picture to show how he has grown. Measure length at birth; now.					
g. Game--Food Basket Upset. Will the noodles stand up? Will the apples jump up and down? etc. Try to name a wide variety of foods.					

EVALUATION OF LEARNING EXPERIENCES
(continued page 2)

	EXCELLENT	GOOD	FAIR	OMIT	REASON WHY EXPERIENCE SHOULD BE OMITTED FROM THE GUIDE
CONCEPT IV. FOOD IS GOOD FOR US.					
a. Read--"About Me", Childcraft, Vol. 14, p. 63. "Food to Grow On". Pictures show examples of some foods that help the body.					
b. Dramatic Play--Set up counter with appropriate props. Let children act out visit to fruit stand. Ask children questions to help children understand fruit is good for us.					
c. Corn on the cob. Have children examine their ear of corn. Shuck, clean and wash. Cook, eat it. Discuss need for vegetables.					
d. Music--Add instant mix to milk in baby food jars. Shake jar to music. Discuss about milk and need for it. Drink.					
e. Dan and Sue meet friendly foods coloring book. Help the children understand that all foods are good and are friends. People must eat a variety of foods.					
f. Filmstrip--"May Dad Is A Dairy Farmer." Ask children about good foods viewed in the film.					
g. Wall Mural Game--Place pictures and label each wall a food group. Face the meat wall; jump up and down facing the vegetable and fruit wall; flex muscles facing the milk wall; etc. What do these foods do for us?					
CONCEPT V. EATING BREAKFAST IS IMPORTANT AND CAN BE FUN.					
a. Telling Time--Let child tell about a breakfast he likes to fix without cooking. Discuss good foods children could fix for breakfast.					
b. Puppets--Have puppets display need for breakfast. Use boy and girl puppet to plan all types of menus that children could prepare without using heat. What are some foods that could be eaten for breakfast?					
c. Cooking and Tasting Experience--Have children taste different kinds of bread. Make peanut butter sandwiches, cinnamon toast, etc. Are these foods for breakfast?					
d. Sing--"ABCD" on page 8 of nutrition guide. What do the words mean?					
e. Mosaic Project--Different types of cereal, glue and a little imagination can create exciting fun. Why is it important to learn to like all kinds of cereals?					
f. Film--"Breakfast--I Love You". Freddie, the bear, is hero who gives advice on the importance of breakfast.					
g. Breakfast Game--Use food models or food mobile pictures. Allow children to assemble their own breakfasts. Is choice a nutritious breakfast? Emphasize "WE ARE WHAT WE EAT".					

1. I have been particularly successful in teaching the following aspect of nutrition:

_____

_____

2. Please give any suggestions that you feel would improve the nutrition guide.

_____

_____

THANK YOU FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE.
(Please check to be sure you completed each of the three pages.)

APPENDIX D

CORRESPONDENCE WITH EDUCATORS

October 25, 1973

Dear Teacher:

You volunteered at the Oklahoma Kindergarten Teachers Association meeting, on October 18th, to participate in a research project involving nutrition education in the kindergarten. The research is to be a part of my doctoral program at Oklahoma State University.

The enclosed questionnaire is a part of my study. Please read the questionnaire carefully and respond candidly so that the data will be of most value. Would you then return it in the self-addressed, stamped envelope by November 12th?

I believe you will be anxious to receive the nutrition resource guide for young children that I have developed. As soon as I receive your completed questionnaire you will be mailed the nutrition resource guide.

I hope you will be excited and pleased when you use the materials suggested in this guide and then in the spring assist me in evaluating some of these materials.

Thank you for your valued assistance in this study.

Sincerely,

/s/ Mrs. Carolee Schmidt

(Mrs.) Carolee Schmidt
Graduate Student

Volunteer Information Card

NAME_____

STREET OR BOX NUMBER_____

CITY_____STATE_____ZIP_____

I would like to receive the NUTRITION EDUCATION RESOURCE PACKAGE. Yes_____ No_____

If I received the RESOURCE PACKAGE I would be willing to answer a short nutrition survey. Yes_____ No_____

After I have used materials from the RESOURCE PACKAGE I would be willing to evaluate selected learning experiences from it as part of a research project.
Yes_____ No_____

(over)

THANK YOU FOR YOUR COOPERATION

Carolee Schmidt
Box 444
LaCygne, Kansas 66040

Box 444
LaCygne, Kansas 66040
November 23, 1973

Dear Teacher:

You volunteered to receive a questionnaire pertaining to nutrition education, on October 18th while attending the Oklahoma Kindergarten Teachers Association meeting. This form was mailed on October 28th; however, your complete questionnaire has not yet been received.

To date, over 55 percent of the kindergarten teachers have responded to the questionnaire. The general response to the study has been excellent. However, in order to make the study more meaningful and to report findings that are representative of all kindergarten teachers your response is needed to the questions on this questionnaire.

If you have not already returned your questionnaire, I would appreciate your taking a few minutes from your busy schedule to complete the enclosed instrument. Return it in the self-addressed, stamped envelope at your earliest convenience.

Thank you for your assistance.

Sincerely,

/s/ Carolee Schmidt

(Mrs.) Carolee Schmidt
Graduate Student

Box 444
LaCygne, Kansas 66040
January 9, 1974

Dear Kindergarten Teacher,

Thank you so much for answering the questions on the nutrition survey. I have used this information to aid in developing a nutrition guide for kindergarten children.

I am enclosing the guide for your use. After you have had time to teach some of the concepts and use activities and other materials from the guide I will mail you an evaluation questionnaire so that you may offer suggestions for revisions and improvements.

Please examine the five concepts and decide when you might teach them this year. Order any materials, such as films, or foods which will be needed to carry out the activities. Mix these liberally into the nutrition education curriculum planned for your kindergarten children, and you are off to a successful beginning. You will be helping children to develop good eating habits and attitudes for life . . . and you may be giving them a better chance to reach their potential for physical and mental growth.

I think you will enjoy using these resource materials. Thank you again for your help in this research study.

Sincerely,

/s/ Mrs. Carolee Schmidt

(Mrs.) Carolee Schmidt

April 19, 1974
Box 444
LaCygne, Kansas 66040

Dear Kindergarten Teacher:

In January you received a nutrition guide for the kindergarten level, with a salmon colored cover, as part of a research study. It is now time to ask you to help me with the final part of the study, which is an evaluation of the guide.

You were so helpful in answering the questions on my first questionnaire. I hope that you found the nutrition guide helpful and were able to make use of some of the learning activities in your kindergarten classes. Now I would like to know your general opinion of the guide. In addition I would like to find out what you think of a random selection of learning experiences taken from the nutrition guide.

Your candid opinion is requested so that improvements can be made. It is through the participation of individuals such as you that we gain greater knowledge and understanding of nutrition education. May I express my sincere gratitu to you for helping in this research project.

Please return the evaluation sheet in the enclosed stamped, addressed envelope by May 4th.

Sincerely,

/s/ Mrs. Carolee Schmidt

(Mrs.) Carolee Schmidt

Box 444
LaCygne, Kansas 66040
May 22, 1974

Dear Kindergarten Teacher,

A few weeks ago, I sent a questionnaire to you for the purpose of evaluating a nutrition guide for the kindergarten level. Even if you were unable to use the guide would you be so kind as to complete part of the questionnaire and return it to me as quickly as possible. I need to complete compiling the research data.

The postage is so expensive won't you please consider this request so that I will not need to send follow-up letters. As a graduate student at Oklahoma State University I appreciate your help in this research study.

I am enclosing another copy of the questionnaire and a self-addressed envelope for your convenience. Thank you so much for your efforts and thoughtful consideration.

Sincerely,

/s/ Mrs. Carolee Schmidt

Mrs. Carolee Schmidt

VITA

Carolee Ann Alexander Schmidt

Candidate for the Degree of

Doctor of Education

Thesis: THE DEVELOPMENT AND EVALUATION OF A KINDERGARTEN NUTRITION GUIDE BASED ON OPINIONS OF OKLAHOMA KINDERGARTEN TEACHERS TOWARD NUTRITION EDUCATION

Major Field: Home Economics Education

Biographical:

Personal Data: Born in Burlington, Kansas, October 3, 1937, the daughter of Adrain and Dorothy Alexander. Married E. M. Schmidt on June 1, 1958. Two children: Alicia Rena and Kaila Rachelle.

Education: Attended Oak Grove rural grade school in Burlington, Kansas; graduated from Burlington High School, Burlington, Kansas, in May, 1955. Received a Bachelor of Science in Home Economics degree from Kansas State University, Manhattan, Kansas, with a major in Vocational Home Economics Education in the College of Home Economics, January, 1959; received the Master of Science degree from Oklahoma State University, Stillwater, July, 1971; completed the requirements for the Doctor of Education degree at Oklahoma State University in December, 1974.

Professional Experience: Home Economics Teacher, Madison, Kansas, 1959-1963 and 1964-1967. Clerk at J. C. Penney Company 1967-1968. Substitute teacher for Emporia Unified Schools 1968-1969. Program Coordinator, Neighborhood Nursery, Stillwater, Oklahoma, Summer, 1971. Substitute teacher for Prairie View Unified School District number 362, LaCygne, Kansas, 1973 to present.

Professional Organizations: Omicron Nu; Delta Kappa Gamma; Phi Upsilon Omicron; American Home Economics Association; American Association of University Women; Oklahoma Kindergarten Association; Girl Scout leader; Gamma Phi Beta social sorority; Bridge Club; La Cygne Parents Teacher Association; while employed as a teacher I was a member of the Madison Teachers

Association; National Education Association; Kansas State Teachers Association; Madison Church Circle # 4; Womens Federated Club; Mental Health Association.