NUTRITION EDUCATION IN THE PRIMARY GRADES

By

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TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

CHAPTER I

INTRODUCTION

Description of Problem

Nutrition education is not a new concept for schools in the United States, but public awareness of the role nutrition plays in the development and health of humans has facilitated a broadening of the educational scope of this field.

Nutrition awareness at the federal level has influenced the implementation and expansion of numerous public service programs such as the School Lunch and Food Stamp Programs. One of the recommendations of the 1969 White House Conference on Food, Nutrition and Health was 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 (Johnson and Butler, 1975).

On November 10, 1977, the 95th Congress enacted PL 95-166, the National School Lunch Act and Child Nutrition Act Amendments. The intent of this legislation was to establish nutrition education training programs to teach children the value of nutritionally adequate diet through involvement in the lunchroom with appropriate classroom reinforcement. Public Law 95-166 also sought to enable participating states to develop curricula and materials and to train teachers and food service personnel to carry out its purpose.

As part of the requirements of PL 95-166, a nutrition education

needs assessment for Oklahoma was conducted by the Oklahoma State University College of Home Economics for the School Lunch Section of the Oklahoma State Department of Education. This needs assessment consisted of an extensive state-wide survey of students, teachers, administrators and food service personnel. The process was to identify discrepancies between "what should be" and "what is", thus determining the nutrition education and training needs of state educational agencies (Wohlberg, 1979). Data from the Needs Assessment showed that the majority of students did not have adequate diets according to the diet pattern criteria (Basic 4 and Basic 4 + A and C) used in the study and that approximately 20 percent did not eat breakfast on the survey day. A general summary of conclusions and implications of the Needs Assessment which concerned nutrition education were:

Oklahoma children and adolescents need nutrition education.

Importance of breakfast needs to be stressed with both students and parents. Students need to be taught basic patterns for adequate breakfasts at home to boost dietary adequacy.

Since parents and teachers are the most common sources of nutrition information, programs need to be aimed at increasing their competence. TV may be a relatively untapped source of "good food information".

More than the Basic 4 needs to be taught.

Since eating school lunch was more predictive of having an adequate diet than was eating other types of lunch, nutrition education programs need to stress school lunch participation (Baird, 1979).

Influences such as PL 95-166 have also precipitated awareness of the expanded scope of nutrition education as it has been traditionally perceived. Prior to 1970, categorical food guides were used almost exclusively in the delivery of nutrition education (Brown, Wyse, and Hansen, 1979). Today, however, most nutrition education professionals recognize the interrelationship of nutrition facts with nutrition attitudes and their application to daily living.

The expanse of knowledge in the field of nutrition science has brought forth new implications in many of the facets of human life. White (1976, p. 54) reported that "the state of knowledge of Americans is out of phase with the advanced knowledge in the science of nutrition." Societal and individual role changes continually influence the nutritional attitudes and practices of American individuals and families.

An understanding of the role of nutrition education and its application to daily living can be regarded as part of preventive medicine and is essential to the health of everyone, especially children. According to Smith and Justice (1979), since educators believe the eating habits of school-aged children may be more easily influenced during the elementary years than at any other period, early instruction is needed. The difficulty of influencing the eating patterns of children once they reach adolescence was demonstrated by Miller in a study of the iron status of high school home economics students. Miller (1973) found that the teen-age girls studied did not eat a well-balanced diet, even though they had the knowledge of how to choose such a diet. Johnson and Butler (1975, p. 21) stated that "Since food habits are formed early in life, the greatest impact in promoting sound nutrition practices can be made during a child's formative years, K-12."

Several studies indicate that teachers and administrators are supportive of nutrition education. In a study of elementary teachers in Tulsa, Oklahoma, Silvey (1977) found that the majority of the teachers felt that nutrition education is effective in improving children's eating habits and should be taught in the schools at all grade levels. Most believed they did not have the time to teach it. In a study of the opinions of Oklahoma kindergarten teachers toward nutrition education, Schmidt (1974) found that kindergaten teachers believed the school should play a significant role in providing nutrition education to help children learn good food habits.

Increased participation in nutrition education for all age groups, especially elementary school children, is one of the many challenges of secondary home economics teachers. Good nutritional status promotes optimum health which, in turn, helps individuals achieve their potential physical, emotional, social and intellectual development. Home economics teachers can, not only serve as nutrition subject matter consultants for elementary teachers, but can also strive to motivate parents and teachers to practice good dietary habits through adult education classes and dissemination of nutrition information through the mass media (Sodowsky, 1972).

Statement of the Problem

The problem of this study was to conduct a survey which would describe nutrition education in primary grade levels in Payne, Logan and Noble Counties of Oklahoma, and to identify ways in which home economics teachers could become involved in helping promote nutrition education in these grade levels.

Purpose of the Study

The researcher believes that nutrition education is an important aspect of the education of the primary student, whose task is to develop a foundation of basic attitudes and skills applicable to the formation of good food habits. This belief is in keeping with the preventive philosophy of home economics and the aim of home economists to help individuals and families progress toward the achievement of their potential. These factors gave rise to the purpose of this study which was to use the survey research method to explore the extent of nutrition education in the primary grades, and to identify ways in which home economics teachers could assist in promoting nutrition education.

Objective of the Study

The overall objective of this study was to gather information to answer the following research questions concerning nutrition education at the primary level:

1. Is nutrition taught in the primary grades?
2. Is nutrition education approached as a separate unit or integrated with other units?
3. What nutrition content is taught?
4. Which nutrition education methods are most frequently used by teachers?
5. Which types of nutrition resources materials are most frequently used by teachers?
6. What is the nutrition background of teachers?

7. To what extent do teachers utilize home economics teachers and/or other persons as resources for nutrition education?

8. In what ways could home economics teachers most effectively assist teachers in regard to nutrition education?

Limitations of the Study

The following limitations are recognized:

1. This study is limited to the primary grade levels in Payne, Logan and Noble Counties in Oklahoma.

2. The findings are limited to that information revealed by the analysis of a questionnaire dependent on voluntary participation.

Assumptions

It was assumed that participating teachers would provide accurate responses to the items on the questionnaire.

Definition of Terms

1. Primary grade level - refers to kindergarten through third grade.

2. Nutrition education -

> the process by which beliefs, attitudes, environmental influences, and understanding about food lead to practices that are scientifically sound, practical, and consistent with individual needs and available food resources (American Dietetic Association, 1978, p. 302).

3. Integrated nutrition education - the process by which nutrition information is incorporated into or combined with other subjects.

4. Nutritionally adequate diet - a diet which provides an adequate level of all nutrients needed for growth, development and maintenance of health.

5. NET - refers to the Nutrition Education Training Program authorized by Congress in 1977 through amendments to the Child Nutrition Act - PL 95-166.

6. Dairy Council - this organization has recently undergone a name change and is now referred to as American Association of Milk Producers, Inc. (AAMPI). The term, Dairy Council, is used in this study since that term was used by survey respondents.

Summary

Chapter I contains a description and statement of the problem, purpose of the study and the objective for the study. Limitations, assumptions and definitions of terms have also been included. A review of the literature which provided the necessary background is given in Chapter II. Chapter III contains the identification of the population, development of the questionnaire and the procedure followed in gathering data. Findings from the data and discussion are presented in Chapter IV. A summary, conclusions and recommendations appear in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Until the 1900's, what was taught about food was part of cultural heritage and was passed from generation to generation. At the turn of the century, basic scientific knowledge regarding human nutrition was beginning to grow and its relationship to human health was being recognized. Though nutrient deficiency conditions were the main focus of early research, the effects of dietary excesses were also being recognized (Pye, 1976).

Research continued to bring forth new knowledge in the field of nutrition until, according to Leveille (1978, p. 5), "the evolving science of nutrition came into its own in the 1940's, during the vitamine era, and has become an ever more pervasive force." Each advance in nutritional knowledge, especially those associated with the eradication of deficiency diseases, has had significant impact on the health of this country. In spite of these advances and the increased knowledge in the field of nutrition, many authorities believe that this information is not being applied to its fullest extent in the food practices of Americans. White (1976) stated:

> The U.S. has been called a nation of nutritional illiterates. If this is the case, it is not because of lack of information about food and nutrition; it must be a lack of motivation to avail oneself to the information. . . . obviously much more is known about nutrition and human needs than is manifest by the current practices of our population (p. 54).

There is substantial evidence to indicate that malnutrition in the United States is a serious health problem which affects all levels of society. Livingston (1971, p. 18) wrote, "we have two major problems: one caused by overnutrition (overeating) and one caused by undernutrition and hunger (lack of food)."

Malnutrition is often thought to be solely the result of poor economic conditions, but other reasons contribute to its cause as well. According to Livingston (1971), there are more persons in the United States malnourished because of nutritional ignorance and misinformation than because of poverty. It is often argued that all that is needed to solve the problems of hunger and malnutrition in this country is the availability of an adequate income for all persons. Briggs (1970), however, wrote that "Unless people know what foods provide good nutrition and how to spend their money wisely and economically, we cannot expect malnutrition to be erased regardless of the availability of food (p. 4).

The Effect of Nutrition On the Development of Children

Nutrition plays a critical role in the intellectual and physical development of children. In infancy and early childhood, the brain grows and develops at a proportionately faster rate than the body does. Malnutrition which is serious enough to limit physical development will also limit the growth and development of the brain. The effects of malnutrition on intellectual development may be more severe and long-lasting than the more easily observed effects on physical development (National Dairy Council, 1966). Children suffering from poor nutrition also lack the energy and vitality necessary for sound educational

progress. White (1976, p. 54) stated that "even without the learning disabilities associated with severe malnutrtion, the poorly nourished child is a poor candidate for a good education."

Nutrition Conferences, Surveys and Legislation

White House Conference on Food, Nutrition and Health, 1969

Panel IV-1 of the White House Conference called for renewed interest in nutrition education in the schools. This conference was called, in part, as a result of the hunger and malnutrition in America that had been brought to national attention (Nestor and Glotzer, 1981). Primarily concerned with curriculum in nutrition education, the panel recommended:

> 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 evaluating existing curriculum.
>
> That a national interdisciplinary study group be appointed to give further study of the proposed conceptual framework, to assesss 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 (White House Conference Final Report, 1970, p. 151).

This report emphasized that dynamic nutrition education programs beginning in early childhood and extending through elementary and secondary schools should be implemented. These programs could be expected to help young children acquire positive attitudes toward food as well as help older children assume responsibility for selection of food. The programs could also help prepare children for adult and parental responsibilities (White House Final Report, 1970).

A follow-up session of the White House Conference was held in 1971. The purpose was to assess the effectiveness of educational programs, as well as to identify deficiencies. In addition, consumer concerns, increased research efforts and standards for the safety and nutritional value of foods were emphasized (Mayer, 1971).

Ten State Nutrition Survey, 1968-1970

The Ten State Nutritional Survey (TSNS) was originally planned to be comprehensive and national in scope. The goal was to identify the extent and location of nutritional deficiency diseases and clinical undernutrition in the United States. However, because of financial and time constraints, the scope of the study was reduced, which limited the findings (Nestor and Glotzer, 1981). The study was limited to 10 states plus New York City and placed emphasis on obtaining information from low income segments of the population. Since the populations surveyed were not representative of the nation, it was stressed that the findings could not be extrapolated. In spite of the limitations, however, the Ten State Survey was the first step in the identification of the location and extent of malnutrition in the United States (National Dairy Council, 1973). Nestor and Glotzer (1981) identified the following conclusions as having implications for nutrition education at the elementary level:

> A significant proportion of the low-income group was malnourished or at high risk for developing nutrition related problems. Severity of deficiencies and nutrients which were inadequate varied with location and group.
>
> Evidence of malnutrition increased as income decreased.
>
> The educational level of the person buying and preparing the food was positively related to the nutritional status of children less than seventeen years old.

Poor food choices resulted in inadequate diets; overemphasis on red meats, relative to cheaper protein sources, was frequent.

A substantial number of children had calorie intakes substantially below recommended levels. An excessive number were underweight or undersize, especially in lower-income groups and states.

Poor dental care and frequency of snacking on refined carbohydrates were positively related with incidence of dental caries for most children.

In low-income states, school lunches provided relatively higher proportions of students' calorie, calcium, iron, and vitamin A intakes than they did in higher-income states.

Anemia was common in all groups. Low hemoglobin values were associated with low iron intake.

Riboflavin status was poor among blacks and the young in all groups (pp. 161-162).

Oklahoma Food Habits Survey, 1970

A survey was conducted by the Oklahoma School Lunch Section to assess the adequacy of food intake and food habits of Oklahoma School children by a 24 hour diet recall. The sample involved about 6,000 students and was planned to determine the nutritional status of children from large and small communities and at several income levels. The findings revealed that only one-third of the students had adequate intakes of vitamin A or vitamin C, while most met the requirements for B vitamins. Three-fourths of the students had adequate intakes of iron and nearly all had adequate protein intakes. The study also revealed a positive relationship between income and nutritional status. The girls had better nutritional status than boys, except for iron. Survey results also showed that five and six year-olds and the 16 to 18 year-old age group had the lowest percentages of adequate intake of all nutrients, while the seven to nine year-olds had the highest.

A need for more nutrition education at all age levels was indicated by the results of this study. Availability of nutrition education for parents and teachers was also recommended.

Nutrition Education Training (NET), 1977

On November 10, 1977, Congress established Public Law 95-166, the National School Lunch Act and Child Nutrition Ammendments. The purpose of the legislation, as described by Maretzki (1979) was

> . . . to teach children through a positive daily lunchroom experience and appropriate classroom reinforcement, the value of a nutritionally balanced diet and to develop curricula and materials and train teachers and food service personnel to carry out this task. The intent was not to encourage innovation in nutrition education, but to get on with the job of training teachers and food service workers to create those conditions which would make eating a mediated nutrition learning experience for children from preschool through grade 12 in private as well as public schools (p. 176).

PL 95-166 authorized the Secretary of Agriculture to formulate and implement a nationwide nutrition information and education program through a system of grants to states for three fiscal years. In order to receive NET funds, a state was required to hire a qualified coordinator, conduct a needs assessment and prepare a state plan. This plan was expected to address teacher and school food service personnel training, as well as curriculum development and student instruction (Maretzki, 1979).

Nutrition Education: A Needs Assessment for Oklahoma, 1979

As mandated by PL 95-166, a needs assessment was done for Oklahoma in 1979. This project was conducted by the Food, Nutrition, and Institution Administration, Oklahoma State University for the School Lunch Section, Oklahoma State Department of Education.

Information from 7,588 students in grades one through twelve was used to describe the meal patterns of Oklahoma school children (Baird, 1979). Information was also obtained from teachers, food service personnel and principals regarding the extent of nutrition education in the schools and attitudes regarding nutrition education.

The findings, conclusions and implications of the Oklahoma NET Needs Assessment, as summarized in Chapter I of this study, showed a need for increased emphasis on nutrition education and training for administrators, teachers, food service personnel and parents, as well as for students (Oklahoma NET Needs Assessment Summary Report, 1981).

As a result of Oklahoma NET, two nutrition education projects were undertaken through the Oklahoma School Lunch Section. The first project was a workshop for developing curriculum to use in training elementary school teams. The workshop resulted in a statement of objectives and a plan for a pilot program. Another result was the publication of the preliminary issue of an elementary school curriculum guide, Creative Nutrition Education - A Team Approach (the revised guide was later entitled Creative Nutrition Education - An Integrated Approach) (Baird, 1979).

The second program included a series of workshops conducted by six state universities for the purpose of training elementary school teams in integrated nutrition (Baird, 1979).

Oklahoma NET Impact Study, 1981

In 1980, a study was conducted to determine the impact of the Oklahoma NET Team Training on integrated nutrition education in Oklahoma elementary schools. The impact study revealed that NET Team

Training had considerable impact on nutrition education in the schools and that teachers gained the competencies needed to integrate nutrition into the classroom and school lunch programs. Parents also reported positive changes in children's nutritional behavior (Kopel, 1981).

The recommendations made as a result of the Oklahoma NET Impact Study were that:

> Comprehensive Health Education in Oklahoma include nutrition education as an integral component.
>
> The team training concept be continued as a means of effectively integrating nutrition education into elementary schools.
>
> Parent involvement in nutrition education be encouraged and supported by administrators, teachers, foodservice personnel and community.
>
> Team training workshops in nutrition education be offered on a regular basis (once a year) in proximity of the schools.
>
> Evaluation (impact) be an integral component of nutrition in the classroom.
>
> Methods and techniques of evaluation be included in in-service and academic preparation for nutrition education team members.
>
> At least one nutrition course be required in the undergraduate curricula for all prospective administrators and teachers.
>
> High nutrient density foods and drinks replace low nutrient density foods and drinks wich are available to students in vending machines.
>
> Nutrition education activities in the schools be publicized (made visible) via local newspapers, newsletters and local TV.
>
> Longitudinal research studies be done on the impact of integrated nutrition education in the school and home (Kopel, 1981, p. 20).

Nutrition Education in Primary Grades

An important step to provide both food and nutrition education for children was taken with the passage of PL 95-166 which authorized each state to spend 50 cents per school child in federal funds for nutrition education. This legislation clearly supports the importance of nutrition education and the need to integrate it with school food programs (Nestor and Glotzer, 1981). Children have been identified as the most promising target for nutrition education not only because they are thought to be more receptive to acquiring new knowledge, attitudes and behaviors than adults, but also because they represent a convenient captive audience (Hochbaum, 1981). What children learn about nutrition in school influences food behavior in the home. Children's influences are evident in the fact that foods purchased and selected for meals often reflect child preferences, and the television and advertising can prompt children to request certain products. Children can also influence the quality of meals if they know which foods are nutritious and ask parents to get them (Schottenstein, 1974).

The case for early nutrition education of children is supported by statements such as those by Kopel, Callsen, Gregory and Alsup (1979). They wrote:

> It is well established that we are biologically endowed to know when to eat and how much to eat. However, what to eat to improve or maintain health is a learned behavior. This lends support to the need for nutrition education for all age and income levels. To be most effective in bringing about behavior change, nutrition education should include psychological, psysiological, sociological and economic factors involved in food selection (p. 4).

Most nutrition education work with children has previously been based on classification of food into basic food groups such as the

Basic 4 or Basic 5. Nutrition educators now realize that nutrition education can draw more broadly from the behavioral and social sciences to clarify why we eat what we do. They can also design curriculum that is more effective in developing concepts, attitudes and practices that help promote long term health (Contento, 1981). Maretzki (1979), in discussing nutrition education programs, stressed the importance of children learning to think about food in all its complexities as preparation for decision-making rather than simply learning facts about food and food habits.

In a Piagetian-based study pertaining to children's ability to think about food and eating, Contento (1981) found that many children saw no relationship between concepts of nutrients as components of food and their personal experience of the eating process and the effects on their bodies. Piagetian theory, which suggests that children cannot learn concepts which are beyond their capacity to understand, has implications for nutrition education at the primary grade level. Because this theory emphasizes the importance of the child's interaction with real world objects and events, Contento (1981) concludes that nutrition education should include information and experiences from the real world. She suggests that educators may need to experiment with different food groupings that are more perceptually based rather than dependent on formal structures.

A nutrient density-nutrition education program for grades K-6 was developed and evaluated by Brown, Wyse and Hansen (1979). The nutrient density approach compares the nutrients in a food with its caloric content. The analysis of the program indicated that children at this level are capable of learning sophisticated nutrition concepts.

There are many ways to approach nutrition education in the primary grades. However, it is well established that in order for learning to become transferable, it must take place within the child's realm of experiences and opportunities to practice and apply the learning. Maretzki (1979) illustrated some of the current ideas concerning the importance of early nutrition education when she wrote:

> A proverb reminds us that if we give a person a fish, we feed him for a day; while if we teach a person to fish, he is fed for a lifetime. If, as nutrition educators, we teach children what foods to eat today, we will have taught them how to eat for a few years at the most. This is an era in which foods are changing rapidly. Those children who learn how to think about food in its inherent complexity are the children who are laying the foundation for a lifetime of dietary decision-making (p. 177).

Cooperative Efforts Between Home Economics Teachers and Elementary Teachers

Secondary home economics teachers have both opportunities and challenges to help promote nutrition education in the primary classroom. Not only can they serve as consultants and help develop and organize elementary curriculum, but can help strengthen the school lunch program as well. Home economics teachers can, through adult work, home visits and adult organizations, work with families to strengthen the parent involvement which is so important in school programs.

In speaking at a National Nutrition Education Workshop sponsored by the American Home Economics Association, Hughes (1978) emphasized the importance of personalizing nutrition education. One of the ways discussed was the use of the secondary home economics classroom as an untapped work force. This idea is based on the notion that when a person learns something which is important, that person will wish to

share it with others. Home economics students could have opportunities to personalize nutrition instruction by working directly with not only primary and elementary students, but parents and the elderly as well (Hughes, 1978). The benefits of an approach such as this are multiple. Not only do primary students benefit, but older students have the opportunity to place their learning within the context of real daily life and to observe, first hand, the characteristics and developmental patterns of younger children.

In a school project involving volunteer "teen teachers" who were trained to teach nutrition lessons to elementary students, Shoup (1976) found that the teens could be effective teachers if they were prepared. It was also found that the teens, themselves, learned a great deal about nutrition through the training sessions and their attitudes about certain foods became more positive.

Shoup (1976, p.10) further stated that "Perhaps the most important accomplishment of this nutrition class project was that the teens had to learn themselves in order to help others learn."

Summary

The literature reviewed in this chapter reaffirms the need for school nutrition education programs which begin at the primary level and continue through the secondary grades. The strong influence of nutrition on the development of children was discussed. A resume of national nutritional conferences, surveys and legislation provided information on the nutritional status of children as well as implications and recommendations for nutrition education. The influence of learning theory on the selection of content and learning activities for

primary students was discussed as an important factor in the success of nutrition education programs. Finally, the various roles of the secondary home economics teacher as a facilitator for nutrition education in the elementary school were considered.

CHAPTER III

PROCEDURE

This chapter includes the procedures used to meet the objective, identify the population and collect the data.

Development of the Questionnaire

In order to meet the general objective of answering the eight research questions listed in Chapter I, a questionnaire designed to provide needed data was developed (see Appendix A). Specific questionnaire items were developed to answer each research question (see Appendix B) and to provide a demographic description of the sample. The concepts and objectives for kindergarten through third grade from the NET curriculum guide, Creative Nutrition: An Integrated Approach were used as a reference in developing the questionnaire items concerning nutrition content. Some questionnaire items were adapted from the teacher section of Nutrition Education - A Needs Assessment for Oklahoma. Additional suggestions from committee members concerning survey design and nutrition content were also utilized, resulting in the development of the questionnaire used in the study.

Section A included four questionnaire items which described the sample of teachers. These items pertained to grade level taught, age group, years of primary level teaching experience and educational level. Also included were items designed to determine who the respondents felt had responsibility for nutrition education.

The number of respondents who did teach nutrition was determined as well as the reasons given by those who did not. Section A, therefore, dealt with research question number one (Appendix A), in addition to the demographic information.

Section B consisted of items pertaining to nutrition curriculum and was intended to be completed only by respondents who taught nutrition. The questionnaire was organized so that respondents that did not teach nutrition could omit Section B.

Additional items in this section concerned: (1) curriculum sources, (2) whether nutrition was taught separately or integrated with other subjects, (3) content, (4) teaching methods, (5) resource persons used, and (5) titles of nutrition resource materials. Research questions two through five and seven were dealt with in Section B (Appendix A).

The final segment, Section C, was to be completed by all respondents, regardless of whether they taught nutrition. This section concerned the nutrition background of respondents and whether they had worked with home economics teachers in teaching nutrition. Also included was a checklist on which respondents could indicate ways they felt home economics teachers could assist them in teaching nutrition. This section concluded with an item seeking teachers' comments concerning nutrition education. Section C related to research questions six through eight. Question seven related to both Sections B and C.

Survey Pretest

The questionnaire was pretested with five primary level teachers not currently employed in the public school system. It was determined

that the questionnaire could be completed within five to ten minutes, depending on whether Section B was applicable and the extent to which comments were made. No inconsistencies appeared and teachers reported no difficulties with the questionnaire, therefore no revisions were made.

Identification of the Population

The population of the study consisted of all kindergarten through third grade teachers employed in the public schools of Payne, Logan and Noble Counties in Oklahoma. The 1982-83 Oklahoma Educational Directory was used to determine the schools in each district as well as the names of superintendents and principals. Sizes of elementary schools ranged from those employing four teachers to those employing 37. Though a few schools included elementary and secondary programs in the same building, in most cases, elementary programs were housed separately. A letter (see Appendix C), which explained the purpose of the study, was drafted and sent to each superintendent. The letter sought permission to contact the elementary principals in the district concerning participation in the study. Post-paid response cards were included in each letter. After a two week period, a second letter (Appendix C) and response card were sent to superintendents whose original response cards had not been received. All response cards except one were eventually received. Of the 28 schools contacted, two declined to participate and one did not respond, resulting in 25 participating schools.

The researcher then contacted each elementary principal by phone. The purpose of the study was explained and permission was sought to

survey teachers of the primary grades. Principals also furnished the exact numbers of teachers at this level within their schools. Finally, arrangements for delivering the survey materials were made.

Nutrition resource materials published by the United States Department of Agriculture and Oklahoma State University Home Economics Cooperative Extension were obtained from the Food and Nutrition Specialists, College of Home Economics, Oklahoma State University and assembled into packets to be distributed with the questionnaires. It was felt that the resource packets would serve as an incentive for teachers to complete and return the questionnaires. A cover letter (see Appendix A) explaining the purpose of the study and the instructions for return was attached to each questionnaire. One hundred eighty-nine questionnaires and packets were distributed.

Due to the bulk and weight of the packets and close proximity of the majority of the schools, most survey materials were personally delivered to the principals, who in turn, distributed them to participating teachers. It was felt that the personal contact made by the researcher would serve to increase the response rate of the questionnaires. Stamped, addressed return envelopes were attached to each questionnaire, except for those the researcher planned to personally collect. Follow-up contacts were made by phone to some schools after a period of two weeks.

Of the 189 questionnaires, 137 (73 percent) were returned. Seven had to be eliminated due to incomplete or inconsistent data. One hundred thirty questionnaires (69 percent) were finally used. The data was analyzed by frequency count and percentage.

Summary

Chapter III has described the procedures followed in identifying the population, developing the questionnaire and collecting the data. The findings from the data, as well as discussion, are presented in Chapter IV.

CHAPTER IV

RESULTS AND DISCUSSION

In order to obtain information concerning nutrition education at the primary grade level in Payne, Logan and Noble Counties in Oklahoma, a questionnaire (see Appendix A) was either delivered or sent by mail to all kindergarten, first, second and third grade teachers in the participating schools. Of the 28 elementary schools asked to participate, two declined and one failed to respond, leaving a total of 25 participating schools in which 189 teachers were surveyed. A total of 137 questionnaires were returned. Seven of these were eliminated from the sample, however, due to lack of complete and consistent data. The final sample consisted of 130 teachers, 69 percent of the original sample.

Grade Levels Taught By Respondents

The teachers were asked to check the grade level or levels they were presently teaching. The breakdown of grade levels shown in Table I indicates a fairly even representation of the four grade levels included in the study, though response rates from first and second grade teachers were slightly higher. Since six of the teachers reported teaching a combination of grade levels, a separate category, accounting for this group, was added to Table I.

TABLE I

GRADE LEVELS TAUGHT BY RESPONDENTS
N=130

Grade Level	Frequency	Percent
Kindergarten	27	20
First Grade	36	28
Second Grade	33	25
Third Grade	28	22
Combination grade levels	6	5
Total	130	100

Age Groups of Respondents

Table II shows the distribution of the respondents by age groups. The 47 teachers in the "30-39" age bracket represented the largest group of respondents. Thirty-eight teachers checked the "40-49" age bracket and 25 checked the "20-29" age bracket. The smallest two groups of respondents were the "50-59" age bracket with 16 teachers and the "60 or above" age bracket with three teachers. One teacher did not respond to this question.

Respondents' Primary Level Teaching Experience

Table III shows the number of years of teaching experience within

TABLE II

AGE GROUP OF RESPONDENTS
N=130

Age Group	Frequency	Percent
20-29	25	19
30-39	47	36
40-49	38	29
50-59	16	12
60 or above	3	2
No response	1	1
Total	130	99*

*Percentage totals less than 100 due to rounding.

TABLE III

RESPONDENTS' YEARS OF TEACHING EXPERIENCE
AT THE PRIMARY LEVEL
N=130

Years of Experience	Frequency	Percent
Less than 5	32	25
5-10	56	43
11-20	29	22
Over 20	13	10
Total	130	100

the kindergarten, first, second or third grade levels as reported by the teachers. The largest portion of the sample consisted of the 56 teachers who reported that they had between five and ten years teaching experience in the primary grades.

Educational Level of Respondents

In regard to educational level, the teachers were asked to indicate the highest college degree they had received. The results are shown in Table IV. Seventy-nine (61 percent) of the respondents reported holding a bachelor's degree and 50 (38 percent) reported holding a master's degree. One teacher in the sample held a doctor of education degree.

TABLE IV

EDUCATIONAL LEVEL OF RESPONDENTS
N=130

High College Degree Held	Frequency	Percent
Bachelor's degree	79	61
Master's degree	50	38
Doctorate	1	1
Total	130	100

Persons Responsible for Nutrition Education

The respondents were asked to indicate the degree to which they felt certain persons held responsibility for nutrition education. The degree of responsibility ranged from "not responsible" to "very responsible". Table V shows the results of this item on the questionnaire. In the "other" category, items listed only once included, medical doctors, health teachers, students, Scouts and television as being very responsible for nutrition education. Teachers also listed and rated health officials, students, extended family and media people as being somewhat responsible. Other items listed by the teachers, but not rated included baby sitters, and physical education/athletics.

TABLE V

PERSONS RESPONSIBLE FOR NUTRITION EDUCATION
N=130*

Persons	Very Responsible	Somewhat Responsible	Not Responsible
Teachers (K-3)	75	55	0
Teachers (4-6)	74	51	0
Teachers (Jr. High/Middle)	54	62	4
Teachers (Sr. High)	47	65	9
Parents	126	2	0
Home Economics Teachers	102	27	0
School Lunch Personnel	56	58	13
Other	5	4	

*Not all respondents rated each category.

Several interesting points can be observed in Table V. Thirteen (10 percent) of the responding teachers felt that school lunch personnel should have no responsibility for nutrition education. Parents and home economics teachers were rated as being most responsible for nutrition education. It was also interesting to note that all 130 respondents rated primary level teachers as having at least some responsibility for nutrition education and almost as many, 125 (96 percent) gave similar ratings to upper elementary teachers.

Number of Respondents Who Teach Nutrition

The final part of Section A, which dealt with research question number one, asked teachers to indicate whether they taught nutrition in their classes. Table VI shows the results of this question. One hundred fourteen (88 percent) of the teachers reported that they had taught, or planned to teach, nutrition and 16 (12 percent) reported that they had not and did not plan to teach nutrition during the current school year.

Although respondents who responded "no" were asked to indicate all applicable reasons for not teaching nutrition on a subsequent checklist, not all of the 16 teachers did so. Table VII shows the reasons checked and their frequencies. Seven teachers specified reasons other than or in addition to those on the checklist. Three of these teachers reported that nutrition was taught by the health teacher and three reported that because nutrition was taught in the preceeding grade, they did not teach it at their level. This reason seemed surprising when one considers the ongoing nature of nutrition education and the vast knowledge base in the field of nutrition. In addition, one respondent listed "lack of time" as a reason for not teaching nutrition.

TABLE VI

NUMBER OF RESPONDENTS WHO TEACH
AND DO NOT TEACH NUTRITION
N=130

Respondents	Frequency	Percent
Teachers who have or plan to teach nutrition	114	88
Teachers who have not and do not plan to teach nutrition	16	12
Total	130	100

TABLE VII

REASONS FOR NOT TEACHING NUTRITION
N=16

Reason	Frequency
The curriculum is too full of other things	8
I lack ideas and/or resources	2
Nutrition content is too advanced for students at this grade level	1
My background in nutrition is too limited	1
Nutrition education is not the school's responsibility	0
Nutrition is not included in the curriculum guide I use	0
Other reasons	7

The items in Section A sought to provide a description of the sample, determine the respondents' opinions of where responsibility for nutrition education lies and to answer the question: Is Nutrition Taught in the Primary Grades? The remainder of Chapter IV will be organized according to the other research questions listed in Chapter I, and will identify comments made by respondents.

Nutrition Education-Content, Methods, Resources

Research questions two through five and seven refer to all of the items in Section B and numbers 16 and 17 in Section C of the questionnaire.

Question 2: Is Nutrition Education Treated as a Separate Unit or Integrated with Other Units?

The 114 respondents who taught nutrition were asked to indicate whether nutrition was taught as a separate unit, integrated with other subjects or both. Fifty (44 percent) respondents reported that they used both approaches in teaching nutrition. Thirty-three (29 percent) used an integrated approach, while 31 (27 percent) taught nutrition as a separate unit. Those who used the integrated approach were asked to list the subjects in which they included nutrition. Though many of the 83 teachers listed at least one subject, some listed several. Table VIII lists the subjects reported by the teachers and the frequency with which they were listed. It should be noted, however, that while some teachers listed broad subjects such as language arts or science, others listed more specific units such as writing, "the human body", or safety. Therefore, in order to increase clarity, the units were arbitrarily incorporated into broader subject categories. Two teachers

reported that nutrition was integrated into all subjects and one teacher reported that it was integrated into "everyday occurrences".

TABLE VIII

SUBJECTS IN WHICH NUTRITION IS INTEGRATED
N=83

Subject	Frequency	Percent
Health	49	59
Science	28	34
Social Studies	18	22
Reading	15	18
Math	11	13
Language Arts	11	13
Art	4	5
Physical Education	2	2

Health and Science were the most commonly reported integrative bases for nutrition education, as might be expected. It was, however, surprising to find that nutrition was not incorporated into physical education to a larger extent.

Question 3: What Nutrition Content is Taught?

Item number 11 on the questionnaire consisted of a list representing various examples of nutrition content from which teachers could select. The respondents were instructed to check all items that were emphasized in their nutrition units. The items given and the frequency with which they were checked appears in Table IX. Other specified types of content included: table etiquette (3), effects of sweets (2), world food problems, recognition of a balanced meal, cultural food studies and food purchasing and storage. Nearly all teachers (91 percent) placed emphasis on the classification of food into basic food groups, while nearly as many (81 percent) emphasized the importance of eating a good breakfast.

Question 4: Which Nutrition Education Methods are Most Frequently Used?

Teachers were asked in item 12 of the questionnaire to indicate from a list of possible responses, all the methods they use in teaching nutrition. These methods and the frequency and percentage with which they were checked is shown in Table X.

Discussion of foods and their influence on health and growth was the most commonly checked teaching method. Perhaps this response reflects the fact that classroom and individual discussions can occur frequently and spontaneously without previous preparation or planning. Though nutrition education computer software was checked the least frequently, it seems likely that the incidence of this method will increase as more computers and software become available for classroom use. Other types of methods specified by teachers included: cooking

TABLE IX

NUTRITION CONTENT EMPHASIZED BY RESPONDENTS
N=114

Content	Frequency	Percent
Classification of Food Into Basic Groups	104	91
Importance of Eating a Good Breakfast	99	87
Positive Results of Eating Balanced Meals	96	84
Selection of Nutritious Snacks	92	71
Recognition of Available Food Choices	72	63
Sanitation and Safety in Food Handling	59	52
Recognition That Variety Makes Eating More Interesting	36	32
Participation in the School Lunch Program	35	31
Other	9	8

TABLE X

METHODS USED IN TEACHING NUTRITION
N=114

Methods	Frequency	Percent
Discussion of Influences on Growth and Health	96	84
Tasting All Food Served in the School Lunch	80	70
Use of Films or Filmstrips	75	66
Use of Games, Stories, Puppet Shows or Skits	68	60
Tasting and Identifying Unfamiliar Foods	61	54
Keeping Individual Growth Charts	20	18
Going on Field Trips	15	13
Use of Computer Software	3	3
Other	27	24

(14), use of charts, pictures, flashcards (6), drawing (2), television, grocery store simulation, resource persons, lecturing from text and use of star charts as a reward for good eating.

Question 5: Which Types of Nutrition Resources Are Most Widely Used by Teachers?

Item 8 on the questionnaire asked respondents to specify from a list of examples, the guides they use in teaching nutrition. Table XI shows the frequency of guides checked from the given list and the other types of guides listed by respondents. Only four respondents reported that they used no guides.

TABLE XI

GUIDES USED BY TEACHERS WHO TAUGHT NUTRITION
N=114

Guide		Frequency
Oklahoma Curriculum Guides		32
Local School District Curriculum Guides		20
Oklahoma Nutrition Education Training (NET) Guides		19
Curriculum Developed by Myself		6
Others Listed:	Dairy Council Guides	28
	Text/Workbook	9
	McDonald's Guide	5
	Kellogg's Guide	4
	College Notes	1
	Dental Health Guide	1
None		4

Oklahoma State Curriculum guides were reported to be the most widely used resources. Dairy Council guides appeared to be almost as widely used .

Item 14 on the questionnaire asked respondents to list resources they use most often in nutrition education (see Table XII). Though they were asked to specifically list titles, many teachers listed general types of resources. For this reason, specific types of resources such as those with titles are separated from nonspecific resources such as teacher-made materials. Due to the large number of items listed and the objective of identifying the most frequently used resources, only those listed at least three times appear in Table XII. Appendix D contains a complete list of the resources reported. Oklahoma Nutrition Education Training (hereafter referred to as Oklahoma NET) materials were listed by respondents 11 times, with four of those specifically naming the NET Good Foods Coloring Book and three specifically listing the NET curriculum guide, Creative Nutrition: An Integrated Approach. A possibility exists that all items published by the Oklahoma State Department of Education, including NET materials could have been grouped together by some respondents. Though many of the teachers did not respond to item 14, a few made statements such as "too numerous to mention" or "do not have titles at this time".

Question 6: What is the Nutrition Background of the Teachers?

Questionnaire item 15 related to the nutrition background of the respondents. All 130 teachers were asked to complete this item as well as the other items in Section C. Respondents were instructed to check,

TABLE XII

NUTRITION RESOURCES USED BY RESPONDENTS
WHO TAUGHT NUTRITION
N=114

Resources	Frequency
Non-specific	
Dairy Council Materials	30
Oklahoma State Department of Education - Materials and films	13
Teacher-made Materials	6
Oklahoma Nutrition Education Training (NET) materials	4
Materials from school nurse	3
Specific	
Winnie the Pooh and You (Filmstrip Series - Walt Disney)	9
Nutrition Action Pack (Activity guide - McDonald's)	7
You and Your Health (Scott-Foresman)	7
The Snacking Mouse (Filmstrip)	6
Energize at Sunrise (Activity guide - Kellogg's)	5
Good Foods Coloring Book (Oklahoma NET)	4
Bread and Jam for Frances (Hoban)	3
Creative Nutrition: An Integrated Approach (Oklahoma NET curriculum guide)	3
Health and Growth (Scott-Foresman)	3
You and Your Health (Laidlaw)	3
Your Body for Life (Multimedia Kit - Tupperware)	3
Mulligan Stew (Educational television series)	3

from a list, the types of nutrition education they had received and/or specify types not listed. Table XIII shows the frequency of responses checked. Only four (3 percent) reported that they had never studied nutrition. Of these, two did not teach nutrition in their classes. Although the most widely reported form of nutrition information for the teachers was "I learned about nutrition on my own", it was usually listed in addition to other responses. In the "other" category, it was interesting to discover that nine of the respondents had degrees in home economics. Additional sources of nutrition learning listed were: Reading (5), 4-H (4), Dairy Council (3), respondents' parents or family (3), diet programs (2), medical doctors (2), television and clubs.

Question 7: To What Extent Do Teachers Utilize Home Economics Teachers and/or Other Persons as Resources for Nutrition Education?

Three questionnaire items related to this question. Item 13 asked teachers who taught nutrition to rate certain persons on a given list as to whether they were "not used", "occasionally used", or "often used" as nutrition resource persons. Many teachers rated only the persons they used, failing to check all blanks (see Table XIV).

Some teachers noted that certain resource persons listed were not available to them. The results indicated that respondents used other teachers within the school to the greatest extent. School nurses, school lunch supervisors and Dairy Council consultants were used to a slightly lesser extent. County Extension home economists and home economics teachers were the least frequently checked resource person. In the "other" category, resource persons rated as "often used" included:

TABLE XIII

NUTRITION BACKGROUND OF RESPONDENTS
N=130

Source of Nutrition Background	Frequency	Percent
Learned About Nutrition on My Own	97	75
Studied Nutrition in Secondary School	55	42
Studied Nutrition in Connection with Other College Courses	45	35
Took a College Course in Nutrition	43	33
Attended Nutrition Workshop and/or Inservice Training Course	42	32
Attended NET Workshop Sponsored by Oklahoma State Department of Education	17	13
Other	30	23
Never Studied Nutrition	4	3

TABLE XIV

RESOURCE PERSONS USED BY RESPONDENTS
N=114

Person	Often Used	Occasionally Used	Not Used
Home Economics Teacher	0	6	80
School Health Coordinator	5	5	73
Nurse	13	28	59
School Lunch Supervisor	8	28	57
Public Health Nutritionist	2	5	78
County Extension Home Economist	0	4	79
Dairy Council Consultant	11	24	59
Other Teachers Within the School	15	29	44
Other	2	7	

parents and dentists. Those rated as "occasionally used" were: parents (3), librarian, pediatrician, dental hygienist and counselor.

Two additional items in Section C related to research question number seven. Item 16 asked teachers to indicate by checking "yes", "no", or "undecided" whether they had used or planned to use home economics teachers as nutrition education resource persons. The results of this item are shown in Table XV. The teachers who responded "yes" were asked to describe in Item 17 how they worked with home economics teachers. Of the 10 who responded "yes", only four made comments. Three comments described ways secondary home economics students worked with primary students by presenting skits and puppet shows. One respondent commented that the home economics teacher helped plan the nutrition unit.

Ninety-five (73 percent) of the respondents checked "no" on Item 17. Five commented that they had no opportunity to work with home economics teachers. One noted that plenty of resources were available. Twenty-four respondents reported that they were "undecided" as to whether they would work with home economics teachers. One teacher did not respond.

Question 8: How Can Home Economics Teachers Most Effectively Assist K-3 Teachers With Nutrition Education?

All respondents were instructed to check from a list (Item 18) all ways in which they felt home economics teachers could assist them in teaching nutrition. Table XVI shows the responses and the frequency with which they were chosen. The "other" category in which teachers

TABLE XV

NUMBER OF RESPONDENTS WHO HAVE OR PLAN TO USE HOME ECONOMICS TEACHERS AS RESOURCE PERSONS
N=130

Response	Frequency	Percent
Yes	10	8
No	95	73
Undecided	24	18
No Response	1	1
Total	130	100

TABLE XVI

WAYS RESPONDENTS REPORTED THAT HOME ECONOMICS TEACHERS COULD ASSIST THEM
N=130

Type of Assistance	Frequency	Percent
Give Presentation in Your Class	89	68
Assist in Obtaining Resources or Teaching Material	80	62
Share Ideas and/or Help Organize Learning Activities	76	58
Invite Your Students to the Home Econmics Department	64	49
Direct Secondary Home Economics Students Working With Your Students	54	42
Plan Nutrition Workshops or Inservice Training Activities	45	35
I Do Not Feel Home Economics Teachers Could Assist Me	13	10
Other	4	3

could list additional types of assistance was, instead, used by four teachers for other comments. One teacher wrote, "The school nurse has as many resources as we can fit in." Other comments consisted of "home ec teacher not available here"; "don't expect any assistance"; and "I do not ask that home ec teachers assist me". One hundred seventeen (90 percent) of the respondents felt home economics teachers could be of some assistance to them in teaching nutrition and only 13 (10 percent) felt they could not.

Comments on Nutrition Education

Teachers were given the opportunity in item 19 to make additional comments concerning opinions or attitudes toward nutrition education in the primary grades. Of the 130 respondents, 38 did comment on many aspects of nutrition education. Because the comments pertained to nearly all of the research questions, the comments section was reported separately. Comments were grouped, according to content, under general categories and summarized in statement form. The categories concerned the importance of nutrition education; curriculum; home economics teachers; and school food service.

Comments Concerning the Importance of Nutrition Education

> Nutrition education is very important in the primary grade levels.
>
> The earlier children develop good eating habits and practices, the more likely these habits and practices will continue through adulthood.
>
> Nutrition education is very important in light of the fact that families use more convenience foods and consume more 'fast foods'.

Children with good diets learn more effectively and have better attitudes.

Nutrition is important, but only if the learning is reinforced in the home.

Nutrition education is more a family concern and is only useful when parents set good examples and follow good principles at home.

Nutrition education is important, but at the primary level, the '3Rs' are of greater importance.

Nutrition education is an area in which we could do better and should.

Comments Pertaining to Curriculum

Children at the primary level enjoy learning about nutrition and apply their learning at home.

Children are taught to prepare and select nutritious snacks.

More funds are needed for the purchase of foods to be used for nutrition education and schools should allow food examples in classrooms.

Sufficient materials are available; it's just a matter of finding time to spend on nutrition education.

Nutrition units should take place at the beginning of the school year to allow time for opportunities to reinforce the learning throughout the rest of the year.

Nutrition education is an ongoing process and cannot be adequately covered in a unit or two.

From third grade teachers: Nutrition is covered extensively in second grade and my students are well acquainted with the subject when they come to third grade.

Tasting parties help children learn to appreciate not only new foods, but familiar foods prepared in new ways.

Comments Concerning Home Economics Teachers

Working With Primary Teachers

> Since home economics teachers are not generally accessible to elementary teachers, I don't see how they could be of much assistance.
>
> Secondary home economics students present skits, puppet shows and poster contests for primary level students.
>
> The children would greatly benefit from having secondary home economics students work with them in relation to nutrition education.

Comments Concerning School Food Service

> School lunch personnel work extensively with the students by performing demonstrations, allowing kitchen facilities to be used and letting children help plan menus.
>
> School lunches contain too many sweet desserts, starch foods, and frozen processed foods.
>
> School lunches are unappetizing and lack aesthetic appeal.

In addition to the previously grouped and summarized comments made by teachers, two teachers wrote comments pertaining to the importance of breakfast as well as other concerns related to nutrition. One kindergarten teacher, extensively involved in nutrition education, wrote:

> I am appalled at the number of students I have each year who arrive in my classroom having eaten no breakfast (I am forced to keep peanut butter, crackers, apples, raisins, etc., on hand for such youngsters), the number of children who never eat fresh fruit at home, who enter kindergarten unable to name common fruits and vegetables, who have never helped set a table/buy groceries, and who believe a snack consists of Coke and Twinkies, etc., etc.

This teacher further discussed the objectives strived for in nutrition education.

> I believe food patterns are established between the ages of 3-10 or 3-12. We cook in my classroom <u>often</u> in hopes of allowing each child to:
> - learn what makes a snack 'good' to eat
> - learn that 'good' eating can be fun
> - learn to make decisions about eating
> - learn that food can be a social event
> - learn that measuring to cook and measuring to serve is a 'good' way to deal with foods
> - learn <u>why</u> we eat and <u>why</u> we sometimes want a certain kind of food
> - learn the names of foods and what kind of food category each belongs to
> - learn to function independently in food preparation (I teach a lot about making your own breakfast, even if its not a 'typical' one)
> - learn which foods should be eaten daily.

Another teacher, concerned about students' lack of breakfast and poor nutrition wrote:

> A great need! With societal changes in family structure, breakfast has become a rare bird. Junk food has become the staff of life. Woe, Woe to the brain cells! These young minds need information about the role of nutrition in their lives. . . .

Finally, one teacher commented that she was in the process of writing a cookbook to be used in the classroom for pre-school through third grades.

Summary

The findings presented in this chapter revealed that most primary teachers teach nutrition, approaching it both as a separate unit and by integration with other subjects. A variety of content and teaching materials were also found to be in use in nutrition education. Although Oklahoma curriculum guides were prevalent, Dairy Council publications were, by far, the most frequently used resource materials.

While most respondents had at least some nutrition background, only one-third had taken a college course in the subject. Most respondents used other teachers within their schools as nutrition resource

persons, seldom using home economics teachers for this purpose. Finally, the data showed that respondents felt home economics teachers could be of the greatest assistance to them by giving presentations in their classes and by helping them obtain resources.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The general purpose of this study was to explore nutrition education in primary grade levels and to identify ways in which secondary home economics teachers could provide assistance.

The objective of the study was to gather information to answer the following eight research questions pertaining to nutrition education.

1. Is nutrition taught in the primary grades?

2. Is nutrition education approached as a separate unit or integrated with other units?

3. What nutrition content is taught?

4. Which nutrition education methods are most frequently used by teachers?

5. Which types of nutrition resources materials are most frequently used by teachers?

6. What is the nutrition background of teachers?

7. To what extent do teachers utilize home economics teachers and/or other persons as resources for nutrition education?

8. In what ways could home economics teachers most effectively assist teachers in regard to nutrition education?

Summary

The questionnaire developed for the study consisted of 19 items formulated in relation to the eight research questions (see Appendix A).

The population consisted of 189 primary level teachers in the public schools of Payne, Logan and Noble Counties in Oklahoma. Usable responses from the survey were received from 130 teachers, representing a 69 percent return.

The sample represented a fairly even distribution of teachers from the four primary grade levels. The typical teacher in the sample held a bachelor's degree, was in the 30 to 39 age group and had from five to ten years teaching experience at the primary level.

While respondents believed that primary level teachers were responsible for nutrition education, parents and home economics teachers were believed to hold the most responsibility. Most respondents felt School Lunch personnel should have some responsibility as well.

The data revealed that most respondents teach nutrition, using a variety of teaching methods and resources. A variety of nutrition content was also found to be taught in the primary grades. The reason given by most of the respondents who did not teach nutrition was that the curriculum was too full of other things.

Most respondents reported that they had some nutrition background but few had taken a college course and less than half had studied it in secondary school. The data revealed that while nutrition resource persons were used to some extent, home economics teachers and extension home economists were rarely used for this purpose.

Although few respondents used home economics teachers as resource persons, nearly all felt that they could be of assistance in teaching

nutrition. The primary teachers felt that home economics teachers could be of greatest assistance by giving presentations in their classes and by helping them obtain resources.

Comments concerning nutrition education were made by nearly one-third of the respondents. These were grouped and summarized according to content.

Teachers were generally supportive of nutrition education in primary grades. The belief that early nutrition instruction was an important factor in helping to establish good dietary habits was frequently expressed. Some respondents, however, questioned it's value unless strong reinforcement was practiced in the home.

Respondents generally felt primary level children enjoyed learning about nutrition, and that sufficient resource materials were available. A possible exception, however, was observed in the case of some third grade teachers who felt that nutrition was covered by the Dairy Council's second grade program, and was not needed in the third grade. They frequently commented on the importance of teaching young children to select nutritious snacks and to appreciate new foods.

Many respondents felt that home economics teachers were not easily accessible. Those who worked with them commented on the beneficial ways in which secondary students had given presentations or worked on nutrition projects with primary students.

Comments pertaining to School Food Service personnel were both complimentary and critical, in approximately equal numbers. Supportive comments consisted of ways that teachers had worked successfully with lunchroom personnel in nutrition activities. Generally, critical comments indicated that school menus contained excessive starches, sweet desserts and processed foods and were lacking in aesthetic appeal.

Conclusions

After careful review of the literature and study of the data, the following conclusions were made:

1. Nutrition is taught in the primary grades and is and important part of the early education of children.
2. Many opportunities are present in the primary grades for discussing nutrition concepts and relating them to the interests and concerns of primary level children.
3. Teaching materials are available to primary teachers. The heavy reliance on Dairy Council materials, perhaps reflects the success of the Dairy Council's educational program in providing appropriate resources to teachers.
4. Because home economics teachers are not easily accessible to many primary level teachers, they are not often considered a resource person, likely to be used.
5. Cooperative efforts in nutrition education between primary teachers and School Food Service personnel do not appear to be as strong and innovative as they could be. The potential of the lunchroom to serve as a nutrition learning laboratory does not seem to be utilized to its fullest extent.

Recommendations

A study of the data led the researcher to make the following recommendations:

1. Increased training efforts should be made to integrate nutrition into existing primary level curricula.

2. The Oklahoma NET program should be expanded in scope to promote a more consistent and ongoing statewide elementary nutrition education program.
3. Less emphasis should be placed on cognitive components of nutrition and more emphasis placed on the affective aspects of nutrition.
4. Cooperative efforts between teachers and School Food Service personnel should be increased. The goal of these efforts should be toward improving the quality of lunches and increasing student involvement in the lunch program.
5. Secondary and primary students could realize many benefits from working with one another in nutrition education and should be encouraged to do so, when possible, under the direction of primary and home economics teachers.
6. It appears likely that, in the future, computers will become an increasingly significant part of the teaching and learning process. Therefore, quality nutrition education software, suitable for primary levels, needs to be developed.
7. The nutrition background of teachers tends to be derived from inconsistent sources, increasing the possibility of invalid information being taught. Therefore, it is recommended that a nutrition course be required as part of the undergraduate curriculum for all teachers.

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APPENDICES

APPENDIX A

QUESTIONNAIRE AND COVER LETTER

NUTRITION EDUCATION SURVEY

INSTRUCTIONS: This survey consists of questions and statements which have no right or wrong answers. Your personal opinion is needed. Read each question or statement, then CHECK THE CORRESPONDING LINE TO THE LEFT OF YOUR RESPONSE. A few items need written responses. This form is coded only for record keeping purposes. Your responses will remain anonymous and your school will not be identified in any manner.

For this survey, NUTRITION EDUCATION is defined as "the knowledge of food, how the body uses it, and the application of this knowledge to the formation of good eating habits."

SECTION A

1. What grade level(s) do you teach this year? (Check all that apply)
   _____ K _____ 1 _____ 2 _____ 3

2. What is your age group?
   _____20-29 _____30-39 _____40-49 _____50-59 _____60 or above

3. How many years have you taught at the primary (K-3) level?
   _____less than 5 _____5-10 _____11-20 _____over 20

4. What is the highest college degree that you have received?
   _____bachelor's _____master's _____other (specify)_____

5. To what extent do you feel the following persons should be responsible for educating children about nutrition? Check one blank for each person.

not responsible	somewhat responsible	very responsible	
_____	_____	_____	A. Teachers (K-3)
_____	_____	_____	B. Teachers (4-6)
_____	_____	_____	C. Teachers (Jr. high/middle school)
_____	_____	_____	D. Teachers (Senior high)
_____	_____	_____	E. Parents
_____	_____	_____	F. Home economics teachers
_____	_____	_____	G. School lunch personnel
_____	_____	_____	H. Other (specify)_____

6. Have you (or do you plan to) teach nutrition in any of your classes this year?
   _____ Yes (If yes, proceed to Section B)
   _____ No (If no, answer question #7, then proceed to Section C)

7. If you do not (or do not plan to) teach nutrition, please indicate why. (Check all that apply)
   _____The curriculum is too full of other things
   _____Nutrition content is too advanced for students at this grade level
   _____Nutrition education is not the school's responsibility
   _____Nutrition is not included in the curriculum guide I use
   _____I lack ideas and/or resources
   _____My background in nutrition is too limited
   _____Other reasons (specify)_____

SECTION B

8. Which guide(s) do you use in teaching nutrition? (Check all that apply)
   _____ Local school district curriculum guides
   _____ Oklahoma curriculum guides
   _____ Oklahoma Nutrition Education Training (NET) guides
   _____ Curriculum developed by myself
   _____ Other (specify) _____
   _____ None

9. In what type unit(s) do you teach nutrition?
   _____As a separate unit _____Integrated with other unit(s) _____Both

10. If nutrition is integrated with other subject(s), please name the subject(s).
    _____

11. Which of the following content is emphasized in your nutrition unit? (Check all that apply)
    _____Recognition of the wide range of available food choices
    _____Classification of food into basic food groups
    _____Positive results of eating well-balanced meals
    _____Selection of nutritious snacks
    _____Good sanitation and safety habits in food handling
    _____Participation in the school lunch program
    _____Importance of eating a good breakfast
    _____Recognition that variety in color, flavor, texture and shape makes eating more interesting and pleasurable
    _____Other (specify) _____

12. Please indicate the methods you use in teaching nutrition. (Check all that apply)
    _____Tasting and identifying unfamiliar foods
    _____Encouraging children to taste all foods served in the school lunch
    _____Discussing how certain foods influence growth and health
    _____Keeping individual growth charts
    _____Use of games, stories, puppet shows or skits about food and/or nutrition
    _____Going on field trips to learn how foods are produced and/or marketed
    _____Use of films or filmstrips about food or nutrition
    _____Use of nutrition education computer software programs
    _____Other (specify)_____

13. Indicate the extent to which you use the following resource persons in teaching nutrition. Check one blank for each person.

Not Used	Occasionally	Often	
_____	_____	_____	A. Home economics teacher
_____	_____	_____	B. School health coordinator
_____	_____	_____	C. Nurse
_____	_____	_____	D. School lunch supervisor
_____	_____	_____	E. Public health nutritionist
_____	_____	_____	F. County extension home economist
_____	_____	_____	G. Dairy council consultant
_____	_____	_____	H. Other teachers within the school
_____	_____	_____	I. Other (specify)_____
_____ NONE			

4. Please list the names of a few of the resources that you use most often in teaching nutrition. (For example: Titles of books, films, filmstrips, muti-media kits, computer software, etc.) Please be specific.

SECTION C

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15. Describe your nutrition background. (Check all that apply)
_____Took a college course in nutrition
_____Studied nutrition in connection with other college courses
_____Attended "NET" workshop sponsored by Okla. State Dept. of Education
_____Attended nutrition workshop and/or inservice training course
_____Studied nutrition in secondary school
_____Learned about nutrition on my own
_____Other (specify)_____
_____Never studied nutrition

16. In relation to nutrition education, have you (or do you plan to) work with home economics teacher(s)?
_____Yes _____No _____Undecided

17. If you answered "yes" to #16, please describe how you work(ed) with home economics teachers in teaching your nutrition unit.

18. In what way(s) do you feel that home economics teachers could assist you in teaching nutrition? (Check all that apply)
_____Assist you in obtaining resources and/or teaching materials
_____Share ideas and/or help organize nutrition learning activities
_____Direct activities involving secondary home economics students working with your students
_____Give presentations in your class
_____Invite your students to the home economics dept. for enrichment activities
_____Plan nutrition workshops and/or inservice training activities
_____Other (specify)_____
_____I do not feel that home economics teachers could assist me

19. Please make any additional comments concerning your opinion or attitude toward nutrition education in grades K-3. (Use the back of this page, if needed)

THANK YOU! YOUR HELP AND COOPERATION ARE GREATLY APPRECIATED.

OKLAHOMA STATE UNIVERSITY

MEMORANDUM

DATE *March 15, 1983*

TO _____ *Teachers in K through 3rd*

FROM *Mrs. Mary G. Domnick*

SUBJECT *Nutrition Education Survey*

Dear Teachers,

I am a former home economics teacher now doing graduate work at OSU in Home Economics Education. During my years as a home economics teacher, I became very interested in extending resources and services to early elementary teachers in the area of nutrition education. For this reason, I have chosen to focus my research project on this subject.

Since participation in this project has been approved, and since you, as a K-3 teacher, are a vital source of information, I am asking for your assistance in helping to make this project a success. I feel this information could be very valuable not only to elementary and home economics teachers, but to students and parents as well.

Because I am very grateful for your help, I have assembled a packet of nutrition resource materials for you as a token of my appreciation. I hope you will find these materials helpful.

Please complete the attached questionnaire as soon as possible and then follow the instructions for your school described below. Again, thank you very much.

Sincerely,

Mary G. Domnick

Mary G. Domnick
Graduate Assistant, HEECS

APPENDIX B

SPECIFIC QUESTIONNAIRE ITEMS RELATING TO RESEARCH QUESTIONS

Specific Questionnaire Items Relating
To Research Questions

Research Questions	Questionnaire Items
1. Is nutrition taught in the primary grades?	#6, #7
2. Is nutrition education approached as a separate unit or integrated with other units?	#9, #10
3. What nutrition content is taught?	#11
4. Which nutrition education methods are most frequently used by teachers?	#12
5. Which types of nutrition resources are most frequently used by teachers?	#8, #14
6. What is the nutrition background of teachers?	#15
7. To what extent do teachers of grades K-3 utilize home economics teachers and/or other persons as resources for nutrition education?	#13, #16, #17
8. In what ways could home economics teachers most effectively assist teachers in regard to nutrition education?	#18

APPENDIX C

LETTERS TO ADMINISTRATORS

Oklahoma State University

DEPARTMENT OF HOME ECONOMICS EDUCATION
AND COMMUNITY SERVICES

COLLEGE OF HOME ECONOMICS
125 HOME ECONOMICS WEST
STILLWATER, OK 74078
(405) 624-5046 or 624-5047

February 14, 1983

I am a home economist currently working toward an M.S. degree in Home Economics Education and Community Services at Oklahoma State University. During my previous position as a vocational home economics teacher, I became interested in nutrition education at the elementary levels.

PL 95-166 and the resulting Nutrition Education Training Program has sought to promote positive changes in the concept of nutrition education in the public schools. As a home economist, I am very interested in assessing information relative to the aim of increasing cooperative efforts between home economics and elementary teachers in promoting nutrition education at the elementary level.

Information such as this could be very valuable to home economics teachers as they strive to provide needed resources and services to elementary teachers, parents, and students.

May I have your permission to contact the elementary principals in your district regarding participation in this project? This would involve asking the elementary teachers in grades K through 3 to complete a brief questionnaire concerning nutrition education activities in their classrooms. I will look forward to your prompt reply. A post-paid card is enclosed for your convenience. If this letter has not been directed to the person in charge of research participation decisions, will you kindly indicate the name of the proper person to contact on the card or simply pass this letter on to that person? Thank you very much for your consideration.

Sincerely,

Mary G. Domnick

Mary G. Domnick

Lora Cacy

Dr. Lora Cacy
Associate Professor

Enc.
MD/LC:afs

Oklahoma State University

DEPARTMENT OF HOME ECONOMICS EDUCATION
AND COMMUNITY SERVICES

COLLEGE OF HOME ECONOMICS
125 HOME ECONOMICS WEST
STILLWATER, OK 74078
(405) 624-5046 or 624-5047

March 4, 1983

I recently contacted you for the purpose of seeking your permission to contact elementary principals in your district concerning the participation of K-3 teachers in a nutrition education survey. Since your response has not been received, and since you possibly did not receive the letter, allow me to briefly describe this project.

I am a graduate student in Home Economics Education and Community Services who is working on a project to provide data for the purpose of describing nutrition education activities at the primary grade levels, and identifying ways home economics teachers could, if needed, assist these teachers with nutrition education in their classes. As a former home economics teacher, I feel this information could be very valuable not only to the elementary teachers and home economics teachers, but to students and parents as well.

Participation in this project would involve asking teachers in grades K-3 to complete a brief questionnaire designed to provide the data described above. In appreciation for their cooperation, I plan to provide a complimentary packet of nutrition resource materials to each teacher who desires one.

Because my sample includes a limited number of teachers in a three county area, I am very much depending on a large return if the project is to succeed.

Since I need your response in order to proceed, won't you please mark the enclosed post paid card and return it as soon as conveniently possible? If this letter has not reached the person in charge of research participation decisions, will you kindly indicate the proper person to contact, or simply direct this letter to that person? Again, thank you very much for your consideration.

Sincerely,

Mrs. Mary G. Domnick

Mrs. Mary G. Domnick

Lora Cacy

Dr. Lora Cacy,
Associate Professor

APPENDIX D

COMPLETE LIST OF RESOURCES REPORTED BY RESPONDENTS

COMPLETE LIST OF RESOURCES

REPORTED BY RESPONDENTS

Resources	Frequency
Non-specific:	
Dairy Council Materials	30
Oklahoma State Department of Education - Materials and films	13
Teacher-made Materials	6
Oklahoma Nutrition Education Training (NET) materials	4
Materials from school nurse	3
Books from school library	2
Peanut Commission Materials	2
Health Textbooks	2
4-H Materials	1
College Notes	1
Educational TV - Ch. 13	1
Dairy Farm Panorama	1
Field Trips	1
Florida Department of Citrus Materials	1
Food Classification games	1
Posters	1
Materials from USDA	1
Walt Disney Publications	1
Teacher made software	1
McGraw Hill filmstrips	1
Colgate filmstrip	1
Weekly Reader Posters	1
Films from Modern Talking Pictures	1
Specific:*	
Winnie the Pooh and You (Filmstrip Series - Walt Disney)	9
Nutrition Action Pack (Activity guide - McDonald's)	7
You and Your Health (Scott-Foresman)	7
The Snacking Mouse (Filmstrip)	6
Energize at Sunrise (Activity guide - Kellogg's)	5
Good Foods Coloring Book (Oklahoma NET)	4
Bread and Jam for Frances (Hoban)	3
Creative Nutrition: An Integrated Approach (Oklahoma NET curriculum guide)	3
Health and Growth (Scott-Foresman)	3
You and Your Health (Laidlaw)	3
Your Body for Life (Multimedia Kit - Tupperware)	3
Mulligan Stew (Educational television series)	3
The Things the Professor Forgot (General Mills)	2
Alexanders Breakfast Secret (Filmstrip)	2
Health and Safety Book (Hayes)	2
A Calendar of Home/School Activities (Goodyear)	2

COMPLETE LIST OF RESOURCES REPORTED BY RESPONDENTS (CONTINUED)

Spedific:*(Continued)	Frequency
Feed Your Kids Right (Smith)	1
Meet What You Eat (Film)	1
Dr. Suess - Green Eggs and Ham	1
Dental Health Unit (Am. Dental Association)	1
Nutrition Around the Clock (Walt Disney)	1
Nutrition (Learning, Inc.)	1
Activity Fun with Foods (Am. School Food Service)	1
Snacking Mouse Goes to School (Filmstrip)	1
Vital Vittles Win the West (Filmstrip)	1
Toothtown, USA (Filmstrip)	1
Creative Food Experiences	1
Recipes For Learning	1
Discovering Vegetable Treasures	1
Stone Soup	1
Adelle Davis Books: Let's Eat Right to Keep Fit Let's Get Well, Let's Cook It Right	1
Dudley the Dragon	1
Comprehensive Health Education Nutrition Guide	1
Essentials for Life and Health	1
Eating Better for Health (USDA)	1
What's to Eat? (USDA)	1
Understanding Your Environment	1
The Fox in Shangri-La	1
Milton Bradley Vegetable and Fruit Poster Cards	1
Early Childhood Nutrition Program (Cornell University)	1
Project A M	1
The Story of Bread, Milk, Meat & Vegetable (Filmstrip Series)	1
Mr. Goodbody (Filmstrip)	1
True Book of Health	1
Keeping Healthy (Filmstrip)	1
"Health" Magazine	1
Totalaction (Short and Davidson)	1
Mix, Stir & Blend (Okla. State Dept. of Education)	1

*Titles of some resources could not be identified; as to type due to incomplete information from respondents.

VITA 2

Mary Graham Domnick

Candidate for the Degree of

Master of Science

Thesis: NUTRITION EDUCATION IN THE PRIMARY GRADES

Major Field: Home Economics Education

Biographical:

Personal Data: Born in Boise City, Oklahoma, May 3, 1951, the daughter of Mr. and Mrs. John F. Graham, Jr. Married Darrel K. Domnick, 1971. Mother of two sons, Ryan and Noah.

Education: Graduated from Shattuck High School, Shattuck, Oklahoma in 1969. Attended Oklahoma State University 1969 to 1973; graduated from Oklahoma State University in May, 1973 with a Bachelor of Science degree in Home Economics; studied at Oklahoma State University from June, 1982 to July, 1983; completed the requirements for the Master of Science degree at Oklahoma State University in July, 1983.

Professional Experience: Vocational home economics teacher, Lemon Bay High School, Englewood, Florida, 1973-1981. Graduate teaching assistant, Home Economics Education and Community Services, Oklahoma State University, August, 1982 to May, 1983.

Professional Organizations: American Home Economics Association, Oklahoma Home Economics Association, International Federation of Home Economics, Phi Delta Kappa.