ENRICHMENT OF THE CURRICULUM THROUGH USE OF THE SCHOOL LUNCH PROGRAM IN SELECTED SALEM, OREGON, ELEMENTARY SCHOOLS

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CHAPTER I

INTRODUCTION

Purpose of this Study

The present school lunch program is an example of one change in education today. For many years children living more than walking distance from school came with their lunch pails, others living closer returned home from school at noon. Now many schools provide lunches for all children.

Earlier in the development of the school lunch, educators recognized only the nutritional benefits which children derive from the feeding experience. At the present time more and more administrators realize that in addition to improving the health status of children, classroom teaching can be enriched by relating class work with school lunch and that the noon hour itself can contribute worth-while learning experiences to the education of children. Though many administrators and teachers are experimenting with various aspects of the school lunch program, only limited materials have been assembled which can be made available to teachers.

It is the primary purpose of this study to help teachers utilize the school lunch program as a resource for enriching the elementary curriculum. First, in order to utilize the school lunch program teachers must recognize it as an educational facility. Second, they must understand how to use and be interested in using this educational facility. Third, they need to be ready to appraise the results of their teaching.

This study then attempts to answer these questions:

1. Can the school lunch program serve to enrich the elementary school curriculum?
2. Will teachers accept the challenge of using the school lunch program as an educational facility?
3. Is a resource unit cooperatively planned sufficient help for utilizing the school lunch program as an educational facility?

Assumptions

Though some teachers in the Salem Public Schools are drawing upon the school lunch to enrich their classroom teaching, many are not. More general participation is desirable. This study is based upon the following assumptions:

1. Elementary teacher training institutions do not require courses in health, or in educational or operational values of the school lunch in their preparation of elementary teachers.

2. Some elementary teachers lack confidence in teaching nutrition, foods, table service or etiquette since their college or high school classes frequently have not included class work in these areas.

3. Teachers have not drawn upon kitchen equipment and facilities for class study. Teachers and school lunch personnel have not been encouraged to work together.

4. Teachers feel uninformed in the purposes or operation of the school lunch and are unfamiliar with costs or accounting procedures of the program.

5. Few or no courses of study or books are available on the subject of relating school lunch to elementary classroom teaching.

6. Though limited information relating to school lunch is listed in a curriculum outline entitled An Outline of the Curriculum, Grades One to Six, for Salem elementary schools, no information is included in the more recent curriculum outline developed as Guides to the Basic Program for the first six grades. No separate Guide is available to teachers as for physical education, music and art.

Limitations

This study includes:

1. Eleven out of 26 elementary schools in Salem possessing school lunch programs. Elementary schools in the Salem system include the first six grades.

2. Large and small schools, city and suburban.

3. Participation of twenty teachers. They include two teachers from each of nine schools and one teacher from each of two schools.

4. Classroom feeding and lunchroom feeding schools.

5. Educational aspects of the noon hour activity as well as learning experiences incorporated in the regular classroom.

Summary

The remainder of the chapters of this study will present a review of literature in the field of utilizing the school lunch for enriching the learning experiences of children, the method of procedure used in this study, the presentation of the teachers' reactions to teaching activities related to the school lunch programs, and finally, the implications. The Resource Unit of Learning Experiences Relating to the School Lunch Program which was developed cooperatively by the teachers and the school lunch supervisor is found in Appendix A.

CHAPTER II

THE DEVELOPMENT OF THE SCHOOL LUNCH

Beginnings of the School Lunch

The school lunch is commonly considered a recent innovation in the school program. In reality, however, it is not new. As early as 696 A.D. a school feeding program was known in Egypt. Schools in this period were usually attached to mosques and were permanently endowed for payment of teachers' salaries and for free food of pupils (29, p.84). Records indicate beginnings in Germany in 1790, France in 1849 and Great Britain in 1866 (8, p.57).

In the United States, the first organized school feeding program on record is that by the Children's Aid Society of New York in 1853 (8, p.57). The beginning of the school lunch movement, however, is usually listed as 1894 which is the year in which hot lunches were started in the high schools of Boston by Ellen H. Richards, a pioneer in the study of nutrition and the founder of the American Home Economics Association. Other large cities of early school feeding programs include Philadelphia, Chicago, Rochester and St. Louis.

Some practices considered "recent" today, are much older than is thought. The following are a few that

had their beginnings early in the development of the school lunch:

1. District payment of manager's salary

> In 1903, Rochester, New York, opened its first lunchroom under a teacher appointed by the board of education with her manager's salary paid through the teaching payroll (8, p.57).

2. Central kitchens

> The first central kitchen was built by the Women's Educational and Industrial Union with financial assistance from public-spirited citizens of Boston and a grant from the Laura Spelman Rockefeller Memorial. This kitchen was especially equipped for this purpose and food was sent to individual schools in laundry baskets lined with clean paper (8, p.56).

3. Personnel training

> The Educational and Industrial Union of Boston was training women to operate school lunches in other localities as early as 1916. In a ten-year period students from 31 states had received training and had returned to their home localities (8, p.58).

4. School lunch concessionares

> During the early growth concessionares operated lunch programs in some schools. The number existing today is small. They do not exist where educational benefits are recognized (8, p.58).

Later Development in the United States

The school lunch developed slowly until the depression years. In 1935 the federal government established a school lunch program. It was the purpose

of this program to furnish work activity for unemployed citizens and to provide an outlet for farm products. Most of the programs of this period were not sponsored by the schools themselves but rather by parent groups such as the Parent Teachers Association. These organizations usually contributed equipment, supplies, labor and funds for the purchase of food with which to supplement the surplus foods supplied by the federal government.

This program known as the "hot school lunch" received so much school and community support that Congress in 1943 established the school lunch program on a permanent basis. Since then the federal government has made available cash assistance to schools with which to purchase food locally. Since this time, also, the program has been administered by the state and local school districts.

The National School Lunch Act was passed by Congress in 1946. Section 2 of this act outlines the objectives of the present program in the following manner:

> It is hereby declared to be the policy of Congress as a measure of national security, to safeguard the health and well-being of the Nation's children and to encourage the domestic consumption of nutritious agricultural commodities and other food, by assisting the States, through grants-in-aid and other means, in providing an adequate supply of foods ... for the establishment, maintenance, operation and expansion of nonprofit School Lunch Programs (27, p.1).

Under this program, limited reimbursement is made for each participating school on the basis of pupil-meals. Certain government commodities are available to school lunch programs. Some foods are selected by the government on the basis of their specific contribution to the school lunch. Other nutritionally sound foods become available through the government price support program. These are foods the government removes from normal trade channels in order to bolster prices.

Three qualifications must be met under this program. A school must:

1. Operate its lunch program on a nonprofit basis.
2. Serve meals which meet specified nutritional content.
3. Offer the lunch to all children regardless of their ability to pay.

The Need for Effective Nutrition Education

The American public seems to assume that they are well fed. Studies show, however, that all Americans are far from being well nourished. It is true that severe nutritional deficiencies are uncommon today but mild deficiencies are more prevalent than is generally believed. These may pass unnoticed and untreated because they are not easily detected. Because the effects are usually indirect, they influence general health and

efficiency rather than produce the more obvious symptoms of a specific disease (4, p.3). Nutritional deficiencies of boys and girls resulting from inadequate diets may not become evident until maturity.

Rejection for military service of many malnourished young men resulted in an awareness of the importance of nutrition to health. The fact that one-third of the young men called for military service in the 1940's were rejected for physical defects which were directly or indirectly related to nutritional deficiencies was cause for concern. Still today, young men continue to make poor showings in these physical examinations.

Some misconceptions regarding diet and food habits of children exist. It is assumed that children living in the country, in wealthy homes and in homes of well-educated parents have adequate diets. To the contrary, surveys of many children in different sections of the country show a general need for diet improvement with 6 out of 10 of all children needing improved diets. Children of rural families need better diets to the extent of 7 out of 10. Diets of children from high income families and of those from professional people, need improvement to the extent of 5 out of every 10 (25, p.1).

Most studies show that elementary school-age children consume better diets than teen-agers, though some

studies show poor diets on this level, also. Bowes indicates that the nutritional status and dietary habits of school children are still considerably removed from reaching optimum nutrition (5, p.4). In a study conducted by the Pennsylvania State College including 64 families, children under 12 made relatively good showings as compared to other age-sex groups, though many conditions far from ideal were found to exist (37, p.19). Eppright, Sidwell and Swanson in a study of diets of Iowa school children report that,

> The mean daily nutritive value of the diets of boys of most ages and of girls 6 through 12 years approximated or exceeded the N.R.C. Recommended Allowances, except for calcium (14, p.386).

A study of lesser scope, of children's diets in Mishawaka, Indiana, of grades 3 to 6 found elementary diets in need of improvement. Of the diets in this study, 15 per cent were good, 27 per cent fair, and 57 per cent poor (35, p.23).

Another study of eating habits in nine elementary and high schools in the midwest by General Mills, Inc., showed a need for improvement in both elementary and high school levels. Breakfasts of elementary school pupils were rated as 29.9 per cent good, 50.2 per cent fair and 23.9 per cent poor. Breakfasts of high school pupils were 9.3 per cent good, 43.5 per cent fair and 47.2 per cent

poor. Lunches of elementary school pupils were rated as 32.2 per cent good and 67.8 per cent poor to fair. Lunches of high school pupils were rated as 17.2 per cent good and 82.2 per cent poor to fair (16, p.7).

Unpublished results of surveys in two Salem schools indicate slightly better, though similar, eating habits to those listed above. The first survey in 1950 included 127 participants in a junior high school. Diet ratings were as follows: 38 per cent good, 24 per cent fair, and 38 per cent poor. Breakfast habits resulted in the following classification: 24 per cent good, 59 per cent fair, and 17 per cent poor. In the school year 1952-53, another survey was conducted in a senior high school involving a much larger sampling of 1613 participants. This survey indicated the following breakfast habits: 40 per cent good, 28 per cent fair, 20 per cent poor, and 5 per cent ate no breakfast. A small sampling of parents at a Parent-Teacher-Association meeting resulted in findings of breakfast habits closely paralleling those of their offspring with 45 per cent reporting good breakfasts, 28 per cent fair breakfasts, 17 per cent poor breakfasts. Ten per cent of the 17 per cent ate no breakfasts (30, pp.1-2).

As children grow older they tend to become less concerned with maintaining desirable standards of

nourishment. This condition is unfortunate because the food needs of growing boys and girls reach their peak during the teen-age period. Campbell expresses teen-age needs as follows:

> From the standpoint of actual food needs the teen-age period is one of the most demanding. In fact, teen-agers need more protein and certain other nutrients than their parents. Because these needs are not always met, nutrition problems frequently exist among teen-agers. Maintenance of good nutrition through inclusion of a variety of foods in a balanced diet is essential at this age (11, p.3).
>
> Adolescence is truly a crucial age in the growth, development and health of man. Because the maintenance of good nutrition at this "not quite" age may mean a healthier and happier adult life, it is extremely essential (10, p.3).

Tuberculosis, though decreasing steadily in other age levels, is still a serious problem in the adolescent and studies indicate some relationship between it and diet. For example, of 29 reinfections in a study of 1100 charitable wards, two-thirds occurred in girls, most of them between 11 and 17. A study of food refusals revealed that having been conditioned by patterns of eating in poor homes, they preferred carbohydrates and did not select adequate amounts of protein (18, p.4).

Of the greatest concern, in the light of their role as future mothers, is the nutritional status of teen-age girls. Teen-age diets consisting of empty

calories produce malnourished bodies. Such diets prevent full physical maturity at the time of child-bearing. Studies conducted by Pennsylvania State College found 14.2 per cent of teen-age girls far below standard in skeletal maturity. In addition, 50 per cent were underweight, 30.7 per cent consumed too little calcium and 18.8 per cent consumed less than three-fourths of their recommended iron requirement (37, p.17). In studies of Iowa school children, girls after 12 tended to have diets below the recommended allowances in most nutrients. The greatest deviations were in iron and calcium (14, p.386).

Younger marriages and earlier child-bearing are recent trends. It is no longer uncommon to find marriages in our high schools. According to Bryan, even five years ago, in 1951, 18 per cent of girls in the high school age group between 15 and 19 years were or had been married. Bryan assumes that number to be higher today. She states that in 1953, 19 per cent of the new babies were born to mothers between 20 and 24 years of age (8, p.59). Axelrod states that one-third of today's brides, and one-quarter of mothers bearing a first child, are under 20 years of age (1, p.31). What will be the effect of premature child-bearing upon nutritionally inadequate bodies of the mother and her child or future children?

The importance of the nutrition of the mother during

the pre-natal period has long been stressed by health authorities. The benefits of proper diet have been recognized as resulting in a normal pregnancy with fewer complications in labor or delivery for the mother and a strong, well body with good bone and tooth development for the infant. Axelrod reports that two hospitals studying teen-age mothers found that toxemia developed during pregnancy in one out of five girls; the doctors blamed the inability of girls to appreciate the importance of diet to child-bearing (1, p.31). The effect of poor nutrition of the mother during pregnancy upon the infant is even more serious. According to Bryan, evidence of gross deformities and less obvious types of injury as a result of faulty nutrition has demonstrated the direct relation of pre-natal nutrition to the health of infants (8, p.59).

Though the effect of faulty diet may become evident during child-bearing, it may not become apparent until adulthood. The relation between early food habits and adult health is becoming more fully understood. Purdy points to this relationship in the following manner,

> The findings of nutrition research continue to emphasize the fact that faulty dietary practices are mainly responsible for many ailments of adults. These are often traceable to the delayed effects directly allied to faulty dietary practices begun in childhood and continued over a long period of time (28, p.11).

Where to place the blame for the lack of nutritional preparedness of our young men and women is difficult. According to Axelrod, most nutritionists, doctors and teachers place the blame on dietary ignorance and upon lack of parental direction or discipline. The latter results in indulgence by adolescents in their own dietary whims (1, p.30).

Diet Improvement a Responsibility of the Schools

The evidence of dietary ignorance places the responsibility for its correction on the schools. It appears, however, that classroom teaching of health and the operation of a school lunch program which aims to establish good food habits, have not been successful. Bryan concedes that the school lunch seems to be functioning less effectively than should be expected in an educational system and presents the following reasons for this condition, by stating,

> ...it is inadequate in scope, since only one-third of our children eat a school lunch and only 80 per cent of that third consume a meal that approximates one-third of the daily nutritive requirements (8, p.59).

> Perhaps an important reason for both of these conditions is that we have talked a great deal about the value of school feeding in the physical, mental and social development of the child and its integration with the educational program and have done too little integrating. We have been concerned with the mechanics of

> the program without accepting the evidence from many schools that a correlative program of education in food and nutrition, suited to each grade level, is essential to a fully functioning school lunch (7, p.98).

It requires the cooperation of the skilled teacher to bring about an educational program using the school lunch to teach children how to eat properly. Though teachers view their assigned teaching areas as possessing educational value, some do not recognize and understand the value of the school lunch program. A few, as a result of their own habits, are not prepared to help. Bryan points out that in surveys of dietary practices in schools the food habits of teachers are sometimes found to be poorer than those of students (8, p.59). This hardly places these same teachers in a position to help children improve their eating habits. Occasionally, too, a teacher fails to apply her knowledge of psychology in the lunchroom. While children listen she makes known her dislike for a food or foods on the menu of the day. Every child within hearing distance immediately rejects the same food. Fortunately the majority of teachers are aware of their responsibility toward improving food habits of children and provide excellent supervision and guidance during the lunch hour.

As important as the attitude and cooperation of the skilled teacher is the philosophy of the administrator.

Upon him depends the pattern of health education, including the amount and kind of lunchroom supervision and the extent to which the school lunch is utilized as part of the curriculum.

The progressive administrator keeps abreast of modern research and adjusts his educational program to the results of research. This should be as true of school lunch administration as of any other area in the school. Present day findings of health habits indicate a need for review of today's health teaching and school lunch practices.

In both elementary and secondary levels, the school lunch should exemplify what is taught in health classes. It should provide opportunity to learn and practice those table manners and social techniques commonly considered desirable in our homes and by our society.

Lunchrooms operated in keeping with the best in nutritional standards and sanitary practices, organized in a manner which results in a pleasant, relaxed situation, and adequately supervised by teachers viewing the lunchroom as a laboratory for learning, contribute positive experiences for boys and girls. Teaching by example, provides a "seeing is believing" aspect to lunchroom experiences of students which will not readily be forgotten. An unorganized, improperly supervised, noisy eating facility, is a source of negative learnings

and should have no place in the school. Teachers cannot use the school lunch in their class work if the lunch program lacks merit as a desirable teaching situation.

Misunderstandings Relating to the National School Lunch Act

Misunderstandings relating to the educational aspects of the program have existed since its inception. The very fact that the National School Lunch Act does not include specific stipulation regarding educational implications has probably retarded its development and absorption into the educational program. The lack of such stipulation, to some educators, implies the lack of characteristics commonly associated with educational worth.

Many educators are not aware that in hearings and debate previous to the passing of this act, the implications relating to education, health and welfare of children were recognized. Congress, nevertheless, decided that federal school lunch assistance should be limited to the food and feeding phases of the school lunch program (23, p.128).

Murphy of the United States Department of Agriculture in Federal Administrative Policies on the National School Lunch Program, interprets the intent of the National School Lunch Act as follows:

> The Congress considered and rejected a provision whereby Federal funds would be made available to assist States both to develop nutrition education activities in connection with school lunches and to obtain adequate supervisory personnel for the program.
>
> In rejecting this provision of the school lunch bill the Congress clearly intended the responsibility for these phases of the program should be assumed by the states and local communities.
>
> The efforts of the Department of Agriculture to carry out this intent of Congress have been misunderstood by some educators. Because the Department has followed the policy of limiting its area of responsibility to the food and food management phases of the program, some groups have interpreted this as a lack of appreciation of the broad educational implications of the school lunch program. Nothing could be further from the truth (23, p.128).

He stresses this point further by continuing,

> The Congress intended, and the Department of Agriculture agrees that the educational aspects are the responsibility of the State and local communities. This is where the responsibility for education has always been in this country and where the educational aspects of school lunches are best developed to meet the individual needs of States and communities (23, p.128).

Use of the Lunchroom as a Classroom

Greater recognition of the educational opportunities afforded by the school lunch activity is resulting in the use of more carefully planned pupil experiences in the lunchroom and greater correlation of these experiences with

classroom study.

Evidence that a change in thinking is taking place comes from many sources. The viewpoint expressed by Sparks, Greshich and Van Fossen is typical. They believe that many learning situations are evident in the lunch period which are overlooked and the loss, educationally, of one-sixth of the total time in a six-hour school day is unjustified. They suggest that the old cliche', "time out for lunch" be forgotten and replaced with the concept that lunch time is "time-in" for teaching, learning and growth (32, p.103). Bradley substantiates the views of Sparks, Greshich and Van Fossen. He believes the school lunch should be looked upon in the same way as any other period of instruction during the day. Bradley recommends that it be as carefully planned for and as thoughtfully carried out as is the arithmetic or English period (6, p.156). Certainly such careful planning would result in greater pupil learning from both the noon hour activity and the related classroom work.

The state-wide school advisory committee, Boston, Massachusetts, in its twelfth annual report points up the same trend by stating that,

> The concept of the school lunch has undergone significant changes in recent years. Educators have already accepted, or are rapidly coming to accept, the fact that school lunch is an integral part of the total educational curriculum (20, p.75).

Thomas in an article in the School Executive, titled "School Lunch in 1953" simply points out that the school lunch is being used as teaching material for work in the classroom (34, p.95). Berg says that the school lunch today is more than a feeding activity. It is an essential part of the educational program (3, p.92). Similarly, the Office of Education pamphlet, The School Lunch--Its Educational Contribution, points out the opportunity for providing interesting and effective health practice through this program. It suggests that health problems related to adequate diet and sanitation in food handling can often be effectively taught by relating them to the school lunchroom (36, p.12).

Obviously educational practices do not become effective unless thought, planning, and frequently, a change in philosophy takes place. Peck states very directly the manner in which the training aspect can be emphasized. He says, "Think of the lunchroom as a classroom where learning should take place." A similar recommendation comes from Kalish. He suggests that as much educationally sound thinking and planning should be directed to the school lunch as to any other phase of the school day (19, p.127). Byrd, also, views the lunchroom as a classroom and places the responsibility for its interpretation and educational use upon the administrator by saying,

> The concept that the lunchroom is another classroom where learning situations for pupils can be arranged is basic to the development of an integrated program. In those schools where the lunchroom is seen only as a public restaurant on school grounds, separate from educational activities, there is little hope of achieving much in the way of educating pupils through the lunchroom facilities or programs, nor is it to be expected that classroom teachers will seek assistance from the lunchroom directors in arranging learning situations in the classroom (9, p.88).

The school lunch program not only provides health benefits to the individual, but lends itself to the enrichment of many subject matter areas and at the same time serves as a laboratory for noon hour learnings.

For many years much class work was centered upon theoretical problems frequently unrelated and unfamiliar to the experiences of children. The trend today, however, is toward the use of problems based upon realistic life situations. The school lunch operation is realistic in its entirety. It is for this reason that educators are awakening to the potentialities of this program. Bryan points to this by stating,

> New methods of teaching and the centering of learning on life experiences of interest and concern to the child have focused the attention of the alert educator on the school lunch. No area of the school program offers wider opportunity for enrichment of the educational program (7, p.94).

Bradley, too, points to the realistic situation

in that he says that the lunch period itself presents a good learning situation because it provides a laboratory approach to the solution of very real problems. The children have the opportunity to work and share in the understandings and skills that meet a need that is very real to them (6, p.152).

Many schools draw upon the learnings from actual work experiences related to the school lunch. In some schools, children serve as cashiers, collectors, hostesses, bus boys, waitresses, servers, dishwashers and perform other duties required by the particular operation of their schools. Such experiences can contribute desirable training. It is essential, however, that children are not assigned to lunchroom duties without thorough instruction. Assignments of children need to be in keeping with their age and abilities and should conform to child labor laws as to safety and age limits. Children should be appropriately dressed. They need to be taught to observe good personal hygiene and grooming. The length of time the child is assigned to a task should be based upon the learnings that can be expected from the experience. Once a child has learned to perform the task, he should be transferred to another assignment.

When educators think in terms of the contribution

of the school lunch to the education of the child, some think of those values inherent in the feeding program itself, others think of the work experience for children, some think of teaching food facts on various grade levels, some think of all or a part of these values bound together to make a composite educational program. It is apparent that utilizing the school lunch program to provide educational experiences means different things to different people.

The majority of administrators, recognizing these educational potentialities, think of the composite values of the school lunch. For instance, Neeley says that the lunch program in her school aims to establish desirable food habits, help children acquire nutritional knowledge, as well as to create a happy atmosphere for the social activity of eating. It also provides a place for children to develop an understanding of the importance of sanitary standards. Finally it provides opportunity to practice democratic living and is a tool for the development of basic skills (24, p.86).

Terrel expresses the same composite value by pointing out that the school lunch is being used as a laboratory for teaching nutrition, social behavior and citizenship (33, p.86).

Berg summarizes his views:

The school lunch has an important role to fulfill in the educational program.

1. The school lunch program may serve as a laboratory motivating the study of nutrition and food value in the regular classes of instruction. School lunch menus provide excellent source materials for a study of food values, food sanitation and food costs.

2. The school lunch program provides many opportunities for invaluable social experiences, such as practicing good manners, achieving social graces, engaging in conversation, enjoying pleasant surroundings, and appreciating the artistic in food arrangements and table decorations.

3. The school lunch program offers experiences that can be helpful in understanding problems in family life and family relationships. Utilization of the school lunch for the study of food values and food costs and for experiences in social situations promotes understandings that are essential to successful living. The family meal and the dining room are highly important factors in family stability. The meal in the home or lunch in the school can have a social significance as well as a physiological one (3, p.72).

Sparks, Greshich and Van Fossen list the following educational opportunities that should be integrated with the lunch program:

A. Nutrition, foods as health factors and personal hygiene.

B. Social participation and growth; the lunch period should provide an opportunity for club meetings, discussions, student-teacher councils and pupil-teacher-community luncheon get togethers.

C. Appreciations: The lunch period should furnish an opportunity for music appreciation, art appreciation in the form of table decor, and a feeling for some of the social graces.

D. Relaxation: The lunch period should be an unhurried relaxed time during the day.

E. Planning and participation: The lunch period should furnish pupils an opportunity to take advantage of a "Natural" laboratory situation.

F. Community relations: The lunch period should furnish an opportunity for members of the community to meet with class groups around the luncheon table, an invaluable aid in guidance work and social studies on vocations.

G. Continuation of class discussions: The lunch period gives teachers the opportunity for carrying on discussions begun in class in the relaxed, informal atmosphere of the luncheon table (32, p.104).

Learning Experiences Related to the School Lunch

Learning experiences which teachers can use to make the school lunch program serve its educational purposes are being suggested by interested educators. For instance, in Integrating Health Education with The School Program, Byrd lists 25 ideas for learning experiences to be integrated with the lunch program. These include:

1. Pupil participation in planning of the menu for a single meal under the direction of the classroom teacher and the lunchroom director.

2. Puppet show dramatization of problems associated with eating habits of children, planning and production of the show by pupils, teacher and lunchroom personnel working together.

3. Lunchroom operation of a question box for getting pupil ideas about improvements in the school lunchroom.

4. Establishment of an orientation program for acquainting pupils with the purpose and use of the school lunchroom.

5. Encouragement of participation by various racial groups in the preparation of "International Day" menus as one aspect of social science study of international groups.

6. Provision of a special table for athletes as part of a training program, with emphasis upon the significance of nutritional habits in sports.

7. Participation by mathematics classes in the calculation of costs, inventory and other financial aspects of the school lunchroom.

8. Cooperation with art classes or individual pupils with artistic abilities in the preparation of food posters, murals, place mats, napkins and so on.

9. Assistance by the lunchroom manager to pupils preparing articles for the school newspaper on food and nutrition and the function of the school lunchroom.

10. The provision of midmorning snacks of a wholesome nature as a service to pupil groups. Educational emphasis upon good foods.

11. Establishment of a professional reading shelf in the lunchroom for teachers and pupils interested in learning more about nutrition.

12. Erection of a bulletin board in the school lunchroom with constant shifting of materials for educational purposes.

13. Use of the school lunchroom as a laboratory for experimental study in foods and nutrition by science classes.

14. Establishment of an advisory committee of faculty members to work with the school lunchroom personnel toward making the school lunch a learning experience for the pupils.

15. Provision of instruction in the setting of the table and in table manners by means of films, assemblies, demonstrations, discussions and so on.

16. Provision of cards with brief factual information about foods instead of mere indications of prices.

17. Arrangement of pupil tours through the kitchen with emphasis upon good sanitation and its significance in food preparation.

18. Use of pupils as host and hostess at family service tables in the lunchroom, with instruction of pupils in proper conduct.

19. Announcements of special foods or dishes, with something of their value, over the public address system from time to time.

20. Provision of information on foods and nutrition for pupils in public speaking classes who wish to speak on such subjects as restaurant sanitation, history of certain foods, and so on.

21. Arrangement of a nutrition course in the school lunchroom by means of a brief daily self-test, in which a quarter sheet of paper is given to each pupil with a nutrition question. The answer to the question is to be given on the opposite side of the paper.

22. Obtaining gifted speakers for student assemblies from time to time. The topic should be one of current interest in the field of foods and nutrition.

23. Distribution of free materials on nutrition to pupils, teachers and parents.

24. Cooperation with garden clubs and classes in agriculture in the growing of foods.

25. Arrangement of model food displays for classroom discussion and analysis as a learning experience in nutrition (9, p.88).

Many schools use the menu as a basis for health teachings, using many different approaches. Bradley says that with a little motivation and guidance from the teacher, children enjoy analyzing menus to discover why certain foods are served. Discussions often take place during lunch time and the child eats a particular food while he almost unconsciously learns why it should be eaten (6, p.154).

In some schools children participate in planning the menu. Bradley recommends this activity. He says that when children feel that they have had a share in planning the meal, they usually are more anxious to partake of the foods served (6, p.154).

Menu planning need not be a part of health study alone but fits beautifully into the social studies area. A foreign parent may be brought in for help in planning the menu and food for almost any country being studied. A meal served from a foreign menu can become an educational venture for all the children in the school. In fact, the cooperation of all children needs to be solicited in order to prevent rejection of the food by those children completely unfamiliar with the food.

Neeley provides an example of a fourth grade class culminating the study of China with a Chinese lunch. The planning of this event provided opportunities for

learning situations in the areas of arithmetic, language, art, music and social areas. Research included China's geographical location, food habits, typical dress, music, art, and recreation. The children made Chinese fans and decorated the lunchroom with these and a large mural depicting a Chinese garden with Ming trees and children flying animal kites. Students who had prepared appropriate music during their orchestra class gave a musical program during the lunch hour. This Chinese dinner was planned by the class after a visit to a local Chinese restaurant to learn more of the food habits of the people of China (24, p.88).

Sometimes a simple part of the menu may be prepared by a class. According to Bradley such an activity provides opportunity for study of nutritional values of separate ingredients as well as to understand why each ingredient is used (6, p.156).

Today we are aware that our future existence may depend upon the preparation of increased numbers of scientists. Schools are being encouraged to develop an interest in science on the elementary level. Most classrooms of elementary schools are not equipped to make the study of science a real and stimulating experience. Schools have been overlooking that area best equipped for scientific study.

The school kitchen, basically planned for the preparation of the noon meal, may contain more facilities of scientific significance than the classroom planned for the teaching of children in this area. The school lunch requires these facilities in preparing food under sanitary conditions. Time-saving equipment is an economy in the school kitchen. A modern school kitchen may include a dish machine, potato peeler, mixer with attachments, refrigerator, cold room, freezer, grinders, magnetic tool holders, utensils of a variety of metals, fans, hoods, scales and many other tools--all rich examples of scientific materials or principles. Here is real equipment serving a useful purpose. This is not theory. It is science in action.

Some educators are becoming aware of this resource. Bryan states that,

> The equipment of the cafeteria itself offers excellent material for use in physics and chemistry classes. Here we find such illustrations as the application of various sources of heat; use of electric power to operate motors carrying attachments on the armature shaft to move mixers, peelers, and slicers; a centrifugal pump in the dish machine; levers; wheels, metals selected for specific chemical and physical properties, and refrigeration and ventilating systems involving the application of the physical laws of gases (7, p.98).

Science is only one of the areas which can be

enriched through visits to the school kitchen. An excellent lesson in social studies is provided through a visit to the school storeroom. Labels on food indicate where they were processed. Pin pointing these on a map after such a visit provides an effective lesson that will not soon be forgotten.

Food waste varies with each school. Where unnecessary waste exists a class may make a study of the reasons, in an effort to reduce this waste. Food waste can become an effective arithmetic lesson through the use of graphs. It can also include other learnings. Bradley says that:

> The children in a class may determine the amount of waste food and calculate its value in terms of money. The purchasing power of that amount of money may be made meaningful when applied to some article that is well within the comprehension of the class. Such activity helps teach informally the value of conservation of resources (6, p.156)

The lunch hour provides a wide range of nutritional, social and cultural experiences. Children learn to eat a variety of food, develop sound eating habits, select suitable topics for conversation and converse with their fellows in a social situation, be courteous, have good table manners or share in the responsibility of making the lunchroom a pleasant place in which to eat.

A more recent trend is toward a carefully planned lunch period which draws more fully upon the social and

cultural values inherent in it. The lack of planning produces lack of learning in the lunchroom as in the classroom. As with classroom teaching, the quality of the planning and supervision determines the benefits that children derive from the experience. The lunchroom, like the classroom, has unlimited opportunity for learning when under the direction of a resourceful teacher. Let us consider a few activities which may be included during a lunch period.

When adults gather for a banquet, dinner, or luncheon of importance, it is the custom to include music in some form as a part of the program. Music can also play an important role in the planned lunch hour for children. It can add to the pleasure and enjoyment of the meal and be educational, too. A variety, planned both for listening and for active participation, adds interest. Soft music contributes to a quiet atmosphere, whereas loud, harsh or otherwise stimulating music tends to defeat the purpose of relaxing children. Group singing by all lunch participants may be desirable occasionally. Vocal music such as solos, duets, and trios, adds variety. Choirs at the holiday season can add to the spirit and enjoyment of the occasion. The noon prayer can be sung by any part of the group. When a children's music committee under the direction of a teacher, plans music

for the day, whether they be records or other musical numbers, the children gain an educational experience.

It is also custom for adults to include for their dinner occasions, an appropriate program in charge of a master of ceremonies. Though an almost comparable setting exists in most schools, we neglect to use the opportunity of making similar experiences available to children. McIntyre indicates the use of such a noon time activity. She points out that children love this time for what it has to offer and says,

> They entertain one another with a program of songs, skits, jokes, riddles, plays, stunts, stories and sometimes recreational singing and school yells. These are under the direction of a pupil master of ceremonies with the help of a teacher on lunch duty (21, p.100).

A planned noon program is not impossible where classes come and go. It is not essential that all children have the benefit of a full program each noon.

Physical Arrangements For Feeding School Children

Some educators believe that the school lunch could contribute greater benefits educationally if the mass feeding idea were discarded. Classroom feeding, out-of-date for a time, is again viewed as possessing values lacking in lunchroom feeding and is favored by a group of educators. Still others recommend a change in the

philosophy of lunchroom planning and design as a means of producing more effective teaching through this program. This latter group believes that educational objectives and the benefits to be derived from the program must be the basis behind the planning of the physical plant.

Generally it is felt that lunchroom feeding en masse does not accomplish effectively the social objectives to be derived from the noon lunch and frequently attributed to it. The noise and confusion of the more crowded lunchrooms is stimulating and not conducive to the digestion of food. Classroom feeding in the quiet of an accustomed environment and atmosphere, in the presence of a familiar teacher, contributes more fully to the relaxed condition required for healthful eating of children.

Other values are attributed to classroom feeding. Teacher benefits can be greater. The teacher who could not be heard in a mass feeding situation has complete control of her class. Where modern tables allow for changes in classroom arrangement, the teacher can develop a more favorable setting for the teaching of food and eating habits. In this same setting children can have invaluable social experiences such as practicing good manners, achieving social graces and engaging in appropriate meal-time conversation. Though the saying of grace and noon time activities can be a part of

lunchroom feeding the more quiet classroom possesses to a greater degree the qualities that make them a desirable part of a noon hour activity. There is opportunity for developing an appreciation of the artistic in food arrangements and table decorations as related art work. These same boys and girls can set their tables correctly and attractively. The classroom becomes a laboratory of work experience and related training.

Berg, Bradley and Moosberg, educators who recognize advantages in classroom feeding, point to a few of these advantages. Berg indicates that some elementary schools now use the classrooms as lunchrooms. Decentralization of lunchroom facilities personalizes the mass feeding situation. This Berg says is necessary for the achievement of social graces in the school lunch program (3, p.92). Bradley believes that when students share the lunch period with their own teacher and classmates the possibility of meeting specific needs and interests is increased. Then table groupings and hostess activities can be shared by all children from day to day (6, p.152). Moosberg suggests that children and parents are enthusiastic about having lunches served in classrooms because the noise and confusion of crowded lunchrooms are reduced so that children who are timid and afraid of crowds are at ease (22, p.98).

Hargrove as well as Sparks, Greschich and Van Fossen, and Berg point to the problem of planning the lunchroom on the basis of educational objectives. Hargrove, an architect, views lunchroom planning somewhat differently from Sparks, Greshich and Van Fossen, and Berg, administrators. Does it indicate a trend toward planning the physical plant from an educational perspective?

Hargrove, whose article was written in 1951, states,

> The school dining room is a teaching device: whether it is helpful or negative is determined by the environment--lighting, quiet, color, decorations, comfort and use as a place for learning table manners, good nutrition habits, and the art of vocal self-expression. The lunchroom should be closely related to the other public areas of the school--a room adaptable for use for receptions or as a small auditorium for meetings, concerts, forums and movies. Whether for students during school hours or for the whole community at other times, it should be usable for between-meal teaching or study hall use (17, p.74).

The above theory is in line with the multi-purpose type of room which has been quite generally incorporated into many school plans and buildings within the last few years.

Sparks, Greshich and Van Fossen present an entirely different point of view in 1952 in saying,

> ...we should be taking advantage of the learning situations present in our lunch periods. In order to do this, we will have to scrap several of our present

> concepts of lunchroom design. In addition, we will have to learn to think of the best in lunchrooms, not as the one which can feed the greatest number in the shortest time, but as the one which best fits our educational program.
>
> The lunchroom itself could be made much smaller, divided into yet smaller areas via shoulder high partitions (moveable) with each sub area having a distinctive decor and space for thirty or so lunchers. Lunch periods could be scheduled by say, three half-hour shifts.
>
> The whole idea is to get away from lunches en masse and to get students and staff together in smaller, more intimate groups (29, pp.104, 108).

Berg seems more nearly in accord with Sparks, Greshich and Van Fossen. In 1953 he recommended that the lunch period be used for group conferences by arranging special tables for such purposes and that future building plans might include luncheon conference rooms or alcoves (3, p.92).

Consideration of the Teacher in the Development of the Educational Aspects of the School Lunch Program

In the final analysis it is the teacher who determines whether the school lunch can be effective in enriching her teaching and thereby contribute to the knowledge, well being and health of those pupils in her charge. Though some teachers use the school lunch to increase pupil understandings and learnings, a larger percentage

do not. The bulletin, Growing Through School Lunch Experiences, Florida State Department, points out that full educational potentialities of school lunch experiences will be realized only when and where teachers voluntarily and enthusiastically take advantage of the educational opportunities afforded by this program (15, p.14).

Teacher Load. If the lunch hour educational program is to be developed to its fullest, it is obvious that the teacher should be an active participant in its development. That some educators recognize the importance of the teacher in making full use of the educational values is evident by the attitude of some administrators toward the presence of teachers during the noon hour. Cogley, for instance, states, "All teachers have a vital interest in the program, and lunchroom supervision should be a part of their responsibilities, not an added duty (13, p.133)." Bates, also, recognizes the importance of the teacher during the lunch hour and says,

> The cooperative teacher has always been indispensable in the conduct of a successful school lunch program. She is the only logical supervisor of a child at lunch. She is best prepared to encourage the development of desirable behavior patterns during this important learning period (2, p.291).

Some administrators believe that it is better to release time for teachers at another period of the day

rather than during the lunch period. One such recommendation comes from the bulletin, Growing through School Lunch Experiences, Florida State Department of Education which states:

> Teachers should have a period of relaxation during the school day at some time other than the noon hour in order that the lunch period may be a properly supervised, enjoyable, educational experience (15, p.14).

Another similar recommendation comes from Kelish who believes that the lunch hour must be an integral and compatible part of the total school program and that any additional teacher time necessitated as a result of the planned lunch period should be compensated for through time off duty during the day or an earlier dismissal (19, p.127).

Teacher Preparation for Utilizing School Lunch For Enriching The Learning of Children. Teachers, however, have not always been given the opportunity to become sufficiently familiar with the program to develop understandings and to recognize its potentialities. New teachers, frequently oriented at length to the community and the school, find the kitchen either omitted or dismissed with, "and this is the kitchen". The teacher readily grasps the implication, "This has no interest or meaning for you" and is left unfamiliar with the school

lunch area.

If, on the other hand, a teacher is supplied with an outline explaining the purposes of the school lunch program and is provided an opportunity to observe the equipment and facilities, better educational use will be made of the school lunch program.

It is not intended to encourage teachers and classes to use a kitchen at will on the slightest pretext, for school lunch personnel are engaged in preparing and serving food which needs to be protected by sanitary practices. Improper use can be a sanitary hazard. As a business, the work of the day needs to proceed as nearly on schedule as possible. Equipment and supplies need always be on hand at the proper moment. Guides which safeguard both the health of children being served and the efficient management of the operation are essential in planning for teacher use of the school lunch area. Careful planning and scheduling between school lunch personnel and teachers should precede any lesson involving the use of lunchroom personnel or equipment.

Many school lunch employees are taught food preparation without the scientific implications involved. In such case the teacher is best prepared to interpret the scientific implications of class observation. On the other hand, many school lunch managers are very well

trained in general and bio-chemistry, nutrition and bacteriology and may be able to provide a more effective lesson than the teacher.

Greater consideration needs to be given to teachers and school lunch personnel working together to improve eating habits of children. For example, a teacher aware of eating problems of a child might discuss with lunchroom personnel the importance of reducing portions for this child. The result in serving portions to the child which he could consume, might encourage him and result in a more secure and better nourished child.

Colleges or other teacher training institutions have offered few or no courses to help potential teachers understand the educational aspects of school lunch program. This is true in spite of the fact that schools in our nation serve over 11,000,000 meals a year under the national school lunch program alone. Principals have, of necessity, operated their programs without benefit of instruction relating to purposes, operation, or educational values. As a result, interpreting the program to teachers has been difficult and frequently neglected.

Teachers, by the same token, have had little or no opportunity of familiarizing themselves with even the basic philosophy of the program, though most modern schools provide school lunches. Teachers are frequently

expected to contribute noon hour supervision without benefit of preparation for it. The lack of knowledge relating to the school lunch program has retarded its development. Teachers are reluctant and feel insecure in accepting responsibility for an assignment which they do not understand. When colleges include courses, designed at least, for administrators, greater strides will be made educationally.

Those educators interested in making greater use of the potentialities of the school lunch program are working at ways to achieve it. A period of experimentation to determine the kind of material and methods which are the most helpful for the teacher will be required. According to the Florida State Department of Education Bulletin, Growing Through School Lunch Experiences, teachers are not taking full advantage of the opportunities afforded by the school lunch program because they need a clearer concept of the purposes and values of the school lunch and how to utilize the school lunch program in enriching their pupils' learning experiences (15, p.14).

Although teachers work constantly with children and know their needs, interests and ability, little has been done to encourage teachers to work together in developing ideas for classroom and noon hour use of the school lunch. The need for interested teachers to

develop the educational aspects of the school lunch program is great. Bryan says,

> Able teachers in every field are needed to develop new curriculum suggestions for utilizing the lunch, its foods, and its equipment for the enrichment of all courses and for the social experiences the meal hour can give in the development of the personality (7, p.98).

CHAPTER III

METHOD OF PROCEDURE

The design of the study was to ask selected elementary teachers of grades four, five and six of Salem, Oregon (1) to contribute to a resource unit made of learning experiences utilizing the school lunch program, (2) to teach some experiences from this unit and (3) to help appraise how successfully the school lunch program was used in their classroom to enrich the curriculum.

Permission for Study

In order to carry on this study it was first necessary to obtain the permission of the superintendent of Salem schools. The study was to be action research involving not only the school lunch supervisor but also the administrative, teaching and school lunch personnel of several Salem public elementary schools. If the primary purpose of improving the learning experiences of some children was achieved then the time, efforts and talents of these persons had to be used and the curriculum patterns would be changed.

Participating Schools and Teachers Selected

Salem's elementary feeding program represents a

wide variation in lunchroom situations and facilities. School lunch service exists in 26 of the 30 elementary schools, both city and suburban.

For purposes of administration, Salem schools are divided into three groups: (1) either city or suburban schools with full-time principals and nine or more classrooms, (2) city schools with teaching principals under the direction of administrative staff personnel, and (3) suburban schools with teaching principals who work under the supervision of a Director of Suburban Schools.

The number of teachers in these schools vary from two to 27 per school. From 25 to 300 pupils and adults per day are served school lunches. The average district-wide, daily-pupil participation in the school lunch program is 55 per cent of the total district enrollment.

Food for the school lunches is transported to three schools, two suburban and one city. Twenty schools are equipped with facilities for lunchroom feeding. Two of the twenty schools equipped for lunchroom feeding have children eating in both the lunchroom and in the classroom. One school has children eating in both, to reduce the noise in the lunchroom. The other school has children eating in both areas because lunchroom seating is inadequate. Children in four schools eat in their classrooms because these schools possess no lunchroom

facilities.

Of schools serving an average of less than 100 daily, eight schools are suburban and one is a city, teaching-principal school. Eleven schools serve between 100-200 meals daily. These consist of two suburban, one teaching-principal, and eight full-time-principal schools. Five full-time-principal schools average between 200-300 daily meals.

Schools were selected for the study of enriching their curriculum through use of the school lunch by first tabulating all elementary schools in the Salem school district for variations in numbers served, facilities, type of principal and lunchroom supervision. Eleven schools representing a cross-section of these variations were selected.

The following school situations were represented in the study:

1. Four schools were selected from the 200-300 average daily meal group. All are full-time-principal schools. One school each represents the situations indicated below:

    a. Lunchroom eating. Supervision by one teacher during each of two serving periods.

    b. Lunchroom eating. Each teacher is seated with his own class pupils and is responsible for their supervision.

    c. Lunchroom eating in two areas. Supervision by two teachers in each lunchroom during each of two serving periods.

d. Classroom and lunchroom eating. Lunchroom supervision by the same teacher each day. Each teacher is responsible for supervision in his classroom.

2. Four schools were included from the 100-200 average daily meal group. The first school represents a teaching-principal school, the other three are full-time-principal schools. Situations represented by these include:

   a. Lunchroom eating. Each teacher is seated with his class pupils in the lower grades and is responsible for their supervision. Upper grade pupils are supervised by one teacher.

   b. Lunchroom eating. Supervision by one teacher during each of two lunch periods.

   c. Lunchroom eating. Each teacher is seated with his class pupils and is responsible for their supervision.

   d. Classroom and lunchroom eating. In both situations, each teacher eats with his class and is responsible for their supervision.

3. Three schools were selected from the group averaging less than 100 meals daily. All are teaching-principals schools. Variations in situations exist as follows:

   a. Lunchroom eating. Each teacher is seated with his class pupils and is responsible for their supervision.

   b. Classroom eating. Each teacher is responsible for the supervision of his classroom.

   c. Classroom eating. Each teacher is responsible for the supervision of his classroom. Food is transported into this school.

Participating Teachers Selected

Principals of the selected schools were telephoned for appointments. At a scheduled conference the purpose

of the study was discussed with each principal and permission secured for teacher participation within his building. Teachers were selected cooperatively by each principal and writer and contact was made with them in accord with the recommendation of each principal. Some teachers were telephoned and an appointment made, others were visited in their classrooms without prior arrangement and a few were invited by the principal to his office following the writer's conference with the principal. All teachers to whom the opportunity was presented, accepted. Three of the 20 participants were teaching-principals. Participating teachers were selected from the following grade levels:

Number of Teachers	Grade
5	4
1	4, 5
1	4, 5, 6
5	5
2	5, 6
6	6

Preparation of School Lunch Personnel

Cook-managers were informed through informal chats that a study relative to the school lunch program was being planned with a group of teachers and they would be called for a meeting as soon as plans with the teachers were more fully developed. When plans had advanced sufficiently to begin the use of experiences in the

resource unit, a note calling a meeting was sent to the cook-managers of participating schools. The purpose of the study was explained to the group and an outline of the unit developed with the teachers was presented to each cook-manager. They were requested to observe the extent to which their time was requested and to make note of any problems resulting from the use of their time or kitchen facilities.

Participating Teachers Contribute to Making a Resource Unit

After concluding the selection of the 20 teachers, a date was set for a meeting and teachers called by telephone. Teachers were requested to bring with them, both ideas of tried and untried learning experiences which they believed possessed educational value for relating the school lunch to any subject matter area of their curriculum.

During the meeting two teachers were selected as recorders; each recording for one-half of the room. Pupil activities which would make the school lunch program more meaningful, came freely and rapidly from the group and at the end of two hours a long list of learning experiences had been recorded. Additional suggestions were sent to the school lunch office after

the meeting.

At the meeting, the possibility of one more meeting was discussed and teachers agreed to come if necessary. As the study progressed, however, it seemed desirable not to have an additional meeting. No real need was evident since the writer had opportunity for teacher contact during regular noon hour visits to schools.

Organizing the Resource Unit

Following the meeting of the participating teachers and the writer, the writer compiled the learning experiences which they had suggested. Next the writer added lists of illustrative material and other learning experiences which she had found in the literature in the field and which she believed suitable for the Salem school program. These learning experiences were grouped into sections relating to (1) Health, (2) Cultural, Social and Spiritual Values, (3) Science, (4) Social Studies, (5) Arithmetic and (6) Art. After being edited for form, this unit was criticized by home economics educationists, and some of the administrative staff of Salem Public Schools. Finally it was produced in dittoed form for use of the participating teachers. The Resource Unit of Learning Experiences Utilizing the School Lunch Program is in Appendix A.

Selecting and Using Learning Experiences

After compilation of the resource unit a copy was taken to each participating teacher and to their principals. The school lunch supervisor and each teacher met to discuss what he or she might do to use the resource unit and how to appraise the experiences used. Each teacher was asked to select either one of the six sections of the unit or to select class activities from several sections. Each teacher was encouraged to utilize as many of the learning experiences as was possible but no attempt was made to suggest how much or what class activities he should select.

The physical set-up of the resource unit, allowing for easy jotting down of notes concerning the activities was pointed out to the teachers. Questions to be discussed with them at the end of the study were given to them.

The teachers were to have eight weeks in which to utilize the resource unit before they would be asked to appraise it.

During the period when teachers were using the resource material, the writer assisted by:

a. Discussions with two classes at the request of the pupils and teachers.

b. Previewed a limited number of films. Made arrangements for two films to be sent and used in two participating schools.

c. Prepared and sent pertinent information to teachers relating to commodities which were made available by the federal government.

d. Took illustrative material to teachers while making regular school visits.

Appraising the Resource Unit

Prior to the last two weeks of school, each teacher was contacted by telephone or during school visits and an appointment scheduled for a final interview. Most conferences were held after school, a few during the noon hour.

During the interview, the activities and the illustrative material in the resource unit which were tried by the teachers were reviewed. The teachers' reactions to these learning activities were discussed and additional notations made in the resource unit where greater clarification seemed desirable. Although teachers were not requested to keep illustrations of their class activities, some had done so (Appendix C). After reviewing the resource unit, additional opinions based upon a questionnaire (Appendix A) were obtained and recorded. The resource units with teachers' appraisals and children's work amassed by teachers was collected at the end of each interview.

Summary

The following chapter will present the 20 teachers' use of the resource unit on utilizing the school lunch program to enrich the curriculum of some elementary grades in Salem public schools. It will also contain these teachers' opinions of the value of utilizing the school lunch program as a means of improving children's learning experiences.

CHAPTER IV

20 TEACHERS' USE AND APPRAISAL OF THE RESOURCE UNIT

The 20 Salem teachers cooperating in this study kept an account of the learning experiences utilizing the school lunch which they provided for their intermediate grade pupils and their appraisal of these learning experiences. To obtain the reaction of each teacher after he or she had used the resource unit an interview was held with the teacher. The first phase of the interview included a review of the learning experiences which the teacher had taught. During the second part of interview the investigator asked each to answer certain general questions which the writer had set up in questionnaire form. The findings are reported separately for each of the two groups of information.

Utilization of the Resource Unit

The resource unit was divided into six different areas including: Health; Cultural, Social and Spiritual Values; Science; Social Studies; Arithmetic and Art. Table 1 shows the distribution of learning experiences selected by each teacher to teach his class. Quantity is not indicated by this representation. Of the 20 teachers, 95 per cent selected activities from Health,

representing the largest selection of activities from any section. The lowest selection was made in Art, representing 40 per cent. Other selections in the order of highest to lowest included Cultural, Social and Spiritual Values, 80 per cent; Arithmetic, 70 per cent; Science, 50 per cent and Social Studies, 45 per cent.

The use of the learning experiences in the sections of the resource unit are discussed separately for each teacher. The major section headings of the resource unit are underlined in the discussion for clarification in reading.

All teachers indicated that they selected learning experiences which they considered suited to the ability and interest of pupils in the age and grade level which they taught. All teachers, also, stated that many other learning activities were equally good but lack of time was a factor in limiting the number which they could use. Only a few of learning experiences in the resource unit used were not rated as good, very good or excellent. Of these rated below the above level, the rating was assigned by no more than one teacher. Only where greater clarification of the value of the activity results in those rated good or better is the rating mentioned in the discussion of each teacher's selection of learning experiences. All ratings less than good are included.

TABLE 1

Learning Experiences from the Resource Unit
Utilizing the School Lunch Program Chosen by the 20 Teachers

Sections of the Resource Unit	Teachers Selecting From Each Section		Assigned Numbers of Teachers																	
	No.	Per cent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Health	19	95.0	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cultural, Social Spiritual Values	16	80.0	X	X	X	0	X	0	X	X	X	X	0	X	0	X	X	X	X	X	X	X
Science	10	50.0	X	0	X	X	0	0	X	0	0	X	X	X	0	0	X	X	0	0	X	0
Social Studies	9	45.0	X	X	X	X	X	0	X	0	0	X	0	0	0	0	X	X	0	0	0	0
Arithmetic	14	70.0	X	X	X	X	X	X	X	0	X	0	X	0	0	X	X	X	0	X	0	X
Art	8	40.0	X	0	0	0	0	X	0	X	0	0	0	X	X	0	0	X	X	X	0	0

Key: X = did use
0 = did not use

A discussion of the learning experiences selected by each teacher follows:

Teacher Number One (Grade six)

For her class, Teacher Number One selected learning experiences from each of the six sections of the resource unit. She chose the largest number of activities from Health.

The study of the Health section began with a discussion of factors which need to be considered in the planning of menus. Boys and girls learned that the price of food in relation to the income is a factor in determining the kind of food which can be included in a menu. For instance, a standing rib roast cannot be included in a menu, either at school or in the home, if such a purchase is not in keeping with the income. Food costs at school were compared with those of the home. Children became aware that low cost meals at school are possible because the federal government makes available limited reimbursement for meals and supplies certain foods for the cost of shipping charges within the state. Another economy, they learned, results from quantity purchase of foods on a district-wide basis. These large orders reduce the amount of money which the food vendor needs to spend for salesmen, office labor, and transportation. As a result

of these savings the vendor sells items purchased in quantity, at less cost to the school district. Boys and girls eating at school benefit from these savings.

Price support in relation to government commodities was discussed. Cans of government foods and those foods purchased from other sources were brought to the classroom. Comparisons were made of the information on the labels. The most striking difference which the children noticed was that the government commodities were packaged in white cans with black labels which stated that they could not be exchanged or sold. Containers from other sources varied in color and contained no restrictions regarding the use of the product. The price of government commodities was compared to the cost of the same foods if purchased from other sources.

Costs as related to meals in the home were then discussed. As a farming community, children were aware that producing food on the farm makes possible the serving of nutritious food at lower costs. They learned that it costs more to produce some foods than others. As a result the price of some foods is higher than others. The distance which food is shipped and refrigeration required for perishable items adds to the cost of foods. Sometimes food costs less in one form than in another, the children learned. To demonstrate this point, oranges

were juiced and compared in cost with canned juice. Children learned that in this case, the canned source was less expensive. The food value of the fresh and canned orange juice was then compared. They learned that some difference in food value existed.

Foods low in cost and high in food value were studied. Children obtained ideas for this activity from their mothers and reported their findings to the class. A few foods listed on the board which were found to be inexpensive in Salem but high in food value included red snapper, liver, ground beef, oleomargarine and kale. The food value and price of ground beef and liver were compared to steak and standing rib roast. From these activities, children learned that nutritional content is not related to price.

Factors other than cost were discussed in relation to menu planning. The importance of the nutritional content, color, variety and texture was included in this discussion.

In another Health activity children added the breakfasts and dinners eaten in the two meals at home to a week's school lunch menus. These menus were then analyzed to determine if the Basic Seven foods were met daily during the week. Not all daily menus included the Basic Seven. These menus were corrected to meet the

Basic Seven requirements.

A discussion of the importance of eating a variety of foods seemed meaningful to these boys and girls. They decided that some children were leaving too much food on their plates to learn to eat a variety. One pupil suggested that more foods might be consumed if room monitors were to check their plates to determine why food is not eaten and to encourage pupils to eat their food if the reason were not satisfactory. The majority of children favored this proposal. These boys and girls decided that one boy and one girl should be appointed by the teacher each week to accept this responsibility. The children took their duties seriously. One monitor was overheard saying to another pupil, "Well, until you get so you eat everything on your plate, you'll never be a good ball player." At the end of the year 14 boys and girls who had not liked spinach were eating it.

During the discussion relating to room monitors, the teacher asked the question, "Why do you suppose we eat certain foods?" Two girls became interested and decided they were going to find out. They began looking up information relating to the importance of balanced diets and later expanded their interests to include other Health aspects. As the girls reported their findings a boy in the class became equally interested and started searching

for information. Before long, most of the members of the class were interested and contributing their findings. One boy observed the lack of flies in the building and playground in spite of food preparation and the presence of garbage. As a result, he contacted the custodian to learn about the care of garbage and looked up information relating to it. As a result he contributed some worth-while information in the area of sanitation (Appendix C). Later he arranged for the custodian to speak to the class. No part of this activity was ever assigned or required of any pupil. Sometimes the information was discussed in Health classes, sometimes during the lunch hour. The two girls interested in the activity at the beginning compiled a summary of the information into a report, The Food We Eat, (Appendix C). These girls, also, planned a week's menu for their homes and prepared them.

Specific foods were studied. The first of these included bread. The food value of cereals in general was discussed. Then the labels of white and whole wheat bread were compared. The class learned that whole wheat is not enriched whereas white bread is enriched. By enriching the latter the vitamins and minerals are approximately restored to those of the whole wheat product. Children were asked to look at the sack of flour at home to determine if it were enriched. One pupil conferred

with the cook to determine if the government stipulated one or the other for school lunches. He reported that either whole wheat or enriched bread or flour are acceptable.

Milk followed the study of bread. Fluid, dried and evaporated were compared for appearance, food value, flavor and cost. Advantages of each were discussed. The food value and cost of milk, tea, coffee and carbonated beverages were compared. Children learned that the differences were significant and were impressed by them. One child remarked that an important factor in selecting milk in favor of carbonated beverages could not be determined on the basis of food value. This, he pointed out, is the constructive effect of milk upon teeth and the destructive effect of carbonated beverages.

The reason for use of either butter or oleomargarine in the school lunch was discussed. The class learned that butter and oleomargarine are similar in food value. The children, also, learned that butter is made from animal fat, whereas oleomargarine comes from vegetable fats. The price of butter and oleomargarine was compared. A discussion of color of both products ensued. The children learned that color is always used in oleomargarine but it is added to butter only when the natural butter contains color below a set standard.

The need of proteins by the body was reviewed.

A business man operating a meat market in the community spoke to the class about meat, including its care and inspection. The children showed much interest and asked pertinent questions. Information which especially interested them was that United States inspected meats are stamped with a harmless purple dye and that Oregon has no meat inspection program at this time.

The price of beet and cane sugar in Salem was compared. In most cases beet sugar was slightly less expensive. In the lunchroom beet sugar was being used. The children knew that beet sugar is produced in eastern Oregon but cane sugar is shipped from greater distances. They recognized that the additional shipping costs of cane sugar might result in a higher price in Salem. They learned that beet and cane sugar have the same chemical composition and, therefore, are equally good. From previous study the boys and girls recognized sugar as a carbohydrate and an energy food. Children brought from home, syrups, processed honey, honey in the comb, and brown, granulated and powdered cane and beet sugar. As a result of a discussion of the similarities and differences of these sugars, a better understanding of this carbohydrate was developed. Much interest was shown in sugar cane brought from Mexico by the teacher.

Vegetable preparation in relation to food value was

of interest to this class. After a committee consulted with the cooks to learn the methods being used in the kitchen to conserve food value, the class discussed the cooking of vegetables. This teacher learned that many children thought vegetables should be cooked a long time. After class discussion, they were anxious to experiment with cooking of vegetables. Because the school has no facilities to make vegetable preparation possible, the children were encouraged to apply their information at home. At home, some girls cooked the vegetables, other boys and girls persuaded their mothers to use a shorter cooking time. Reports were favorable and interest indicated that better vegetable cookery might be used in the homes.

Health and Social Studies were correlated in an activity relating to foods of Peru and Mexico. This teacher had lived in both countries and as a result, was able to discuss with the children the different foods and dietary habits of their people. She prepared mate for the boys and girls which she had previously brought with her from Peru. They were delighted with this experience and actually enjoyed the beverage. Pictures of the foods typical of these countries which the teacher had also brought with her, added meaning to this study. Later a Mexican menu was planned by the children. This menu was

not made available in the school lunch.

Sanitation as applied to the school lunch was another area of the Health section which provided interesting and enlightening information. The custodian was invited by a pupil to come to the class and discuss with the children his part in maintaining sanitary conditions as related to the school lunch. He discussed the care of cans and garbage to prevent flies and rodents from congregating in the area. He, also, discussed his responsibility in keeping the lunchroom clean, pleasant and sanitary. This discussion was enlightening because boys and girls were unaware of the precautions taken to maintain good sanitary conditions both in the building and on the school grounds.

Aspects of sanitation relating to personnel employed in the kitchen were discussed. The importance of wearing clean uniforms, wearing of hair nets, keeping hands and fingernails immaculate, not eating while working with food and not working when colds or infections are present, were a few of the points given consideration. Children listed some techniques practiced in the serving line which they had observed that protect the health of boys and girls. Some of these included the use of tongs instead of fingers for serving foods, covering breads as much as possible, not allowing boys and girls to lean over the counter and care in serving seconds to avoid touching the serving

spoon to the plate from which the child has eaten.

Dishwashing in the school kitchen was discussed. This included the importance of pre-rinsing, sterilizing and air drying the dishes. In addition to being more sanitary than towel drying, air drying saves many hours of labor, which keeps the cost of meals at a minimum.

From the Cultural, Social and Spiritual Values section of the unit this teacher chose a few learning activities. The children set up rules of conduct in line and enforced these themselves. Some rules related to physical conduct such as pushing, crowding or loud talking; others referred to the use of proper names for food instead of referring to food as "stuff", and the importance of not expressing food dislikes.

Children in this room said grace in such ways, as silent grace or a prayer given by one or more of the group. No rule existed and children changed about as they desired.

In this class the children planned and presented an assembly program relating to manners. All children participated in the planning. Six of the pupils in the room took part in the presentation.

Music was tried as a noon hour activity. Suitable records were selected by the teacher from a large collection brought from home. The music was enjoyed by the boys and girls. During the baseball games the children in this

room listened to the games during the noon hour. This is a classroom eating situation. As a result, class activities can be adjusted readily to the desires of the group.

In the Science learning experiences relating to simple machines, motors, gears, forces of energy, friction, elements, drainage and fire extinguishers were discussed as outlined in the resource unit. Three boys and girls were sent to the kitchen to observe equipment and facilities and report their experiences to the class. They not only learned about machines but they learned the importance of proper dishwashing technique, care of fresh vegetables and fruits and care of garbage cans. In addition, they learned that all elementary schools in Salem use the same menu and that cooks receive them every two weeks. Menus include instructions relating to the recipe to be used and suggestions for serving the food. Elements were studied only to the extent that one boy presented a very good report in which he showed the class examples of elements such as lead, iron, copper, silver and aluminum. The use and importance of scales was related to the weighing of food for diabetics. Children had opportunity to observe drainage by watching the installation of drainage lines near the classroom. After discussing fire extinguishers, children toured the building and located the placement of them.

Processing of food was discussed. Some children had visited a cannery and identified canning as one form of processing. Drying was, also, discussed and dried fruit and rice were borrowed from the lunchroom for observation. The children were especially interested in the "parboiled" rice. This rice, they learned, was processed prior to milling to retain more of the B vitamins and iron. Though the color of the raw rice is creamy tan, they observed that the rice turned white after cooking and was tender and fluffy.

Further study of Science included yeast, mold and bacteria. Children gave reports relating to each. In bread, children observed holes caused by gas as a result of yeast action. Both whole wheat and white bread were allowed to mold. Each was sprinkled with water, covered with a glass and placed in a dark place. The whole wheat bread molded faster than the white bread. The children were very interested in this activity. The importance of sanitary techniques in the kitchen was stressed in relation to bacterial growth. Children understood better why they were not allowed to go from scraping dishes to serving food without first washing their hands thoroughly.

In Social Studies examples of foods used in the lunchroom but which are not produced in the Salem area were brought to the classroom. Oranges, tapioca,

sweet potatoes, rice and figs were a few of the foods. This led to the discussion of the importance of refrigeration and transportation in making available a greater variety of food. The point was discussed that foods are not always processed where they are produced. Meat and flour were examples of foods which are not necessarily processed where they are produced.

Arithmetic activities included a discussion of the many costs involved in operating the school lunch. Most children had identified only food and labor as costs and were surprised at the number of items which are included in the cost of a meal. The costs discussed included those listed in the resource unit.

Recipes were borrowed from the kitchen. The children reduced these quantity recipes to six servings. This provided excellent experience in using weights, measures and fractions. These recipes were, also, used for determining the number of total calories in a food and the number of calories per person as based upon the number of servings indicated by the recipe. Children understood the meaning of calories better and learned how to calculate them.

Graphs were made showing the per cent of the daily attendance participating in the lunch at school. This experience added a touch of realism to the construction

of graphs.

In another Arithmetic activity children determined the amount saved by purchasing meal tickets instead of individual tickets for a month and year. They then figured the saving percentage-wise.

In Art, children made place mats and favors. These were used on the children's own tables at meal time to demonstrate their use. Mobiles on manners and nutrition were made and hung from the lights. Posters reflecting good manners were, also, made for the lunchroom. Though these children did not eat in the lunchroom, other classes within the school had their lunch in this room.

Teacher Number Two (Grade six)

Teacher Number Two selected learning activities from all sections of the resource unit except Science and Art. The largest number of selections were made from Health.

This teacher used school lunch menus as a basis for the study of variety, color, texture and food value in relation to menu planning for his first activity in Health. For example, the class reviewed school lunch menus to determine the degree to which the menus were varied. After studying the menus the children agreed that a variety of foods was being served. Learning to

eat a variety is a desirable health habit, they observed, and listed the following reasons in its favor, (a) no food includes all the nutrients for proper growth, (b) acceptance of a variety of foods makes an individual socially more at ease, and (c) an unvaried diet becomes monotonous.

A discussion of interest then developed in regard to the eating of unfamiliar foods. Many children admitted that they were enjoying foods which at one time they had disliked. The children then arrived at two conclusions: (a) boys and girls who have not learned to eat a food need to develop a taste for it, and (b) the practice of sampling even a small bite of food each time it is served is one way of developing food likes.

A study of the body's need for various nutrients included a comparison of the needs of adults and children. The class came to the conclusion that their food needs are greater in proportion to size than those of adults but that under some conditions, adults need as much or more food. Children became aware that teachers sometimes gain weight when eating the same menus planned for active boys and girls. When this occurs, a teacher might bring his lunch from home. Gaining and losing weight became meaningful after the children discovered a member of their group who, under the direction of his family physician, was on a reducing diet. The boy willingly

shared his diet and weight loss record with the class for study.

The Basic Seven was used as a basis for planning menus. First the children made charts in which they recorded all foods consumed for a week. This information was then used for determining if they were eating adequate amounts of Basic Seven foods. Each pupil determined the degree to which he was eating essential foods and the degree to which he was consuming less essential foods.

A week's school lunch menus were planned by the class as a group activity. Breakfast and dinner menus were then planned to complete each day's menus. A bulletin board display by the teacher of the Basic Seven made planning easier for the children. The menus planned by this class were not submitted to lunchroom personnel for school preparation. Bar and line graphs were made including the Basic Seven foods that these menus contained.

The advantages and disadvantages of sending the school lunch menus to the home was an activity selected by this teacher. He learned that few of the menus in his room ever got home. They indicated that what was served entered little into their decision to remain at school for lunch. The distance from home, the weather or a parent being away from home at the noon hour were greater factors in determining whether they ate lunch at

school. This discussion was rated as a fair activity by the teacher.

Aspects of the responsibilities of the federal government in relation to the school lunch were developed. Limited reimbursement per meal and the price support program result in making foods available to schools which increase the food value and decrease the cost of meals to children. Cans of government commodities were brought to the classroom. Children observed that these cans included information not found on cans moving through regular channels. The government stipulates that the meals contain specified foods in required amounts. Records by which lunchroom personnel determine the extent to which a school lunch program meets the standards set by the federal government were brought to the classroom for observation. From these a number of observations were made. One of the observations, for instance, included the kinds of protein which can be included in the calculations.

Questions arose after observing the school lunch records. The boys and girls wanted to know why the protein in the dried milk used in meal preparation was not included in the calculations. They learned that the additional milk adds a nutritional "bonus" and that a variety of proteins is better than the use of only one source of proteins.

"Does the government allow the use of either oleomargarine or butter in school lunches?", was another question which arose and which was discussed. Children then obtained labels of each and studied both the food value and price.

A discussion in relation to meat inspection proved of interest.

Another aspect of Health included the study of lunchroom sanitation. This discussion provided an opportunity to combine Health and Science learnings. The teacher brought a broken cup to the classroom to show the difference between a new break and an old break. He explained how bacteria might become embedded in such breaks. As a result of working in the kitchen the boys and girls were aware that cracked dishes in the lunchroom are always discarded but they were unaware of the reason for this practice.

Cleanliness relating to clothing and work habits of lunchroom personnel were studied. This discussion was meaningful because boys and girls who work in the lunchroom are expected to conform to the same standards.

Most of the activities in the Cultural, Social and Spiritual Values section were selected for study by this teacher. He stated that manners go beyond the lunchroom and the teaching of them here can have a widespread

beneficial effect. In the classroom, children listed guides for their conduct in the lunchroom. This included their conduct in the lunch line and at the table. Though the guides applied directly to the lunchroom the importance of practicing these same manners at home and in public was stressed.

It was this teacher's opinion that some practices lend themselves especially well to home situations. As a result a table was arranged in the classroom where children had an opportunity to practice host and hostess duties. Practice in greeting guests in a gracious manner was, also, provided.

This class decided to say grace at meal time. The boys and girls in this room, having always enjoyed accepting host and hostess duties at the lunchroom table, decided that leading the class in the saying of grace should be included in the list of host and hostess duties.

Listening to music during the lunch period was a new experience for both this teacher and his pupils. The children were asked to choose between talking quietly or listening to music with no talking. They selected to listen to music. The teacher selected the music from his own records. He found quiet music most suitable because it was relaxing and did not stimulate the boys and girls.

The foods of different countries both as they are

similar and as they are different from those of our own country provided an interesting Social Studies lesson. The foods of Mexico, Central and South America, West Indies, Canada and South Pacific Islands were included. As an example, questions similar to this were used: Cane sugar is produced in the West Indies; beet sugar is produced in eastern Oregon. How are cane and beet sugar the same? How do they differ? The class planned a Mexican lunch for use in the lunchroom but lack of time at the end of the school year prevented the use of this activity.

This teacher expressed regret that lack of time made possible only limited use of the activities in the Arithmetic section because "All are good," he said. Determining the amount saved between purchasing a meal ticket instead of buying a single ticket each day for a week provided a realistic approach and immediate interest. Children were eager to determine the economy resulting from the purchase of meal tickets for a month and a year as compared to individual tickets for the same periods of time. Bar and line graphs were made showing the amounts of Basic Seven foods eaten in a week. In another Arithmetic activity the reason for learning fractions became evident as the boys and girls in this class enlarged school lunch menus by both weight and measure.

Teacher Number Three (Grade six)

This teacher provided experiences for her pupils from all sections of the resource unit except Art.

A series of unrelated activities were selected from the Health section. The first activity related to the study of food record sheets kept by cooks in Salem's schools to determine if the foods stipulated by the federal government are being served in adequate amounts. This teacher arranged a conference with the cook-manager to learn more about these records before presenting them to the boys and girls in her class. Copies of completed records were brought to the classroom for study. With the help of the teacher, the class reviewed these records and determined that the kinds and amounts of food as required, were being included in the meals served in their school. Since the cook-manager had completed the computations, this involved only comparing the total numbers served with the totals in the protein, and the butter or oleomargarine columns, and determining if two servings of vegetables or fruits, or one serving of each was included.

The relation of price to food value was studied. As a special report, one child reported on the price of all fresh vegetables which she could locate at a local store. In class, these prices were arranged from the

highest to the lowest per pound. The food values for these vegetables were determined and arranged from the highest to the lowest. This activity produced ready evidence that price is no indication of the nutritional worth of a food. The class reached the conclusion that in the purchase of food, a knowledge of food values might be more important than the amount of money which we have to spend.

The class discussed the use of unflavored milk as compared to flavored milk. These children were surprised to learn that chocolate contains a small amount of stimulant similar to that contained in coffee and tea. They decided that though most children like chocolate milk beverages, they are sweeter than unflavored milk and therefore reduce the appetite. The class decided that chocolate milk is better for boys and girls because it contains the butterfat which includes Vitamin A, whereas the butterfat is removed from chocolate drink.

A study of oleomargarine and butter proved to be an interesting activity of the Health section. Some children knew that oleomargarine was being used in their homes as a result of price; some feeling existed that it was also less adequate nutritionally. As a result of discussion, confidence was established in this food. The children were interested in the fact that the school lunch is allowed the use of either butter or oleomargarine and only

when butter has been made available by the government have Salem schools been able to afford the use of it. During this study, price and food value of these two fats were compared.

Between-meal-eating was discussed. Class members made lists of suitable and unsuitable foods for between-meal snacks. One pupil included the following foods in her lists: DO EAT - apples, oranges, bananas, milk and graham crackers, orange juice. DON'T EAT - cookies, candies, candied apples, cup cakes, soda pop, sugar toast or bread, suckers, chocolate milk, potato salad.

All lunchroom sanitation activities listed in the Health section of the resource unit except those dealing with kitchen inspection and dishwashing were included in the study. Personal appearance and sanitary work habits of lunchroom personnel provided the basis for most of the discussions. The coolness of wearing white uniforms was related to Science. Children were surprised to learn that white uniforms were worn because they show soil rather than conceal the condition of the garment. Of equal interest was the information that hair is unsanitary because it is not washed as frequently as other parts of the body. As a result, food needs to be protected from it by means of a net which fully covers the hair. The reason for not carrying a towel over the shoulder became obvious to the

group. The importance of clean hands and the absence of infection in food handling was stressed. Guides for Children Employed in School Lunch Kitchens, a guide prepared for Salem schools, was read and discussed. Children assisting in the kitchen during the noon hour were observed to be more careful in the scrubbing of their hands after this discussion. A group of children came to the teacher outside of class to discuss with her whether a girl who had a finger hit in a baseball game should be allowed to work in the kitchen during the noon hour.

One child interviewed the cook-manager relative to care given to cans of food prior to opening, care of the can opener and the reason for pre-rinsing dishes prior to dishwashing. This girl's report stated that all cans were washed prior to opening and the can opener was washed daily. All three practices about which she had inquired reduced the chance of contamination; the first two practices by protecting the food, the third by protecting the dishes. This in turn, she explained, protects the health of all persons eating in the lunchroom. When dishes are pre-rinsed, the number of bacteria present are reduced. The water softens the food and the pressure removes the larger particles, making possible better dishwashing by the machine.

Most activities under Desirable Lunchroom

Behavior, a sub-section of the Cultural, Social and Spiritual Values section of the resource unit were included in this study. Good manners in both the lunch line and at the table were outlined. The class then dramatized these in a series of do's and don'ts in lunchroom behavior. The use of appropriate terms in relation to food and suitable table conversation developed into a discussion during the lunch hour as a result of a comment made by a child. All boys and girls seemed to understand the advantages and reasons of the following practices: (a) using pleasant language and pleasant table conversation adds to the enjoyment of a meal or (b) if one is not inclined to make pleasant remarks about food, they should not be made at all.

As one activity in Arithmetic, the class used material sent to the teacher by the school lunch supervisor. This information included foods received from the government during the year, the size of the containers, cans per case, shipping charges per case and the estimated wholesale cost if purchased through regular channels. This class used the information for determining the amount saved by the school district as a result of the use of these commodities. According to the participating teacher this was a most interesting activity.

One other Arithmetic activity included by this

teacher was the determining of savings resulting from quantity purchase. From information listed in the resource unit, the class figured the savings on 100 cases of corn, green beans, peaches and applesauce as compared to the cost of purchasing one case of each and 10 cases of each at different price levels.

Teacher Number Four (Grade six)

From the resource unit this teacher selected activities from Science, Social Studies, and Arithmetic for his sixth grade pupils.

Activities relative to developing an understanding of simple machines, motors, gears, forces of energy, friction, elements, detergents, scales, thermometers and fire extinguishers were selected for study for the Science class of this teacher. The amount of time allocated to the study of each subject was determined by the interest of the group and their ability to understand and grasp the information being studied. The teacher reported that the class varied from great interest and easy comprehension of simple machines to less interest and lesser understanding of elements.

All children in this teacher's classroom had worked in the school kitchen as noon hour helpers sometime during the school year. A remarkable number of observations

relating to equipment and its operation had been made by these boys and girls. As a result of their familiarity and understanding of school lunch facilities, this teacher did not feel a need for taking the class to the kitchen. Discussions were the only method of teaching used by this teacher.

To begin with, simple machines, motors, and gears were listed by groups on the board. For example, simple machines were classified as inclined planes, pulleys, wheel and axle, and levers. Under each classification were listed examples of each. For instance, a few examples of sources of levers in the kitchen included mixing machine, institutional can opener, French knives, rotary beaters and pans with short and long handles. Motors were classified as those used for cooling as in the refrigerator and cold room or those used for moving objects as in the case of the mixer, grinder, potato peeler, or knife sharpener. Examples of appliances with gears included the mixer, institutional can opener and ice cream dipper.

The sources of energy which were listed and discussed included water power, gas, electricity, light, and magneticism. An area of considerable interest related to the benefits resulting from electrical energy as compared to human energy.

The children agreed that the benefits of electrical energy are numerous in a school kitchen and, therefore, an economy of human energy results. They learned, too, that by saving human energy, the cost of operating a school kitchen or any business is reduced. Children discussed the labor saving aspect of the mixing machine, both as compared to the economy of time and the saving of human energy.

Due to their experiences while on lunch duty in the kitchen most children were aware that a sudsless detergent was being used in the dishwashing machine. They were, however, not aware of the reason for not using a suds producing detergent as their mothers were using in the home. By beating a sudsing detergent in a bowl, the effect of agitation upon such a detergent was demonstrated. As a result, an understanding was developed of the effect which the heavy agitation of the dishwashing machine might produce. They also learned that for other reasons the chemicals used to produce a detergent for use in school kitchens might be somewhat different. The protection of human hands need not be considered in a machine but on the other hand the chemicals must not be injurious to the kinds of metals used in the parts of the machine.

Since children had observed both scales and measuring equipment in the kitchen, a committee was sent to the kitchen to learn the function of each. This committee

reported to the class that in this kitchen scales are used for all dry ingredients whereas liquids are determined by measure. The committee reported that the government tested recipes used in the kitchen are arranged for use by both weight and measure because many schools still do not possess scales.

Thermometers as health protection aids were discussed. All children were aware that two thermometers were attached to the dishwashing machine. A few children knew the purpose of each. Those who did not know, learned that one thermometer checks the temperature of the dishwashing water, whereas the other checks the temperature of the rinse water. The dishwashing temperature is lower than the rinse temperature. Children learned that foods kept in the cold room and refrigerator are perishable items. Bacterial growth is reduced by lower temperatures, making possible the consumption of safe foods before they are wasted.

In the study of elements, children listed elements which they could identify in the kitchen in relation to food preparation equipment. When they learned that aluminum is an element whereas stainless steel is an alloy of iron, they discussed the difference. The boys and girls learned that many items could have been equally desirable for kitchen use if made of either aluminum or stainless steel, others are better of one or the other.

Children observed the location of fire extinguishers throughout the school building. These were sketched on a simple outline of the building. The reason for the location of each fire extinguisher was determined. The location in relation to hazardous areas was evident.

In Social Studies, a committee representing their class magazine was assigned to write a "news article" or a "feature story" relative to the major food distribution centers in the West. This committee visited the storeroom. From the labels the committee obtained the cities in which different foods are processed. They brought this information to the classroom and pinpointed the cities on a map. Members of the committee then wrote their "news articles." This teacher suggested that the activity would have produced even more gratifying results had the activity been used earlier in the year. At this time an effort was being made to deplete storeroom supplies for year end closure, thereby resulting in lower stocks than usual.

In Arithmetic, material sent to participating teachers by the school lunch supervisor relating to commodity costs compared to wholesale prices for the same foods was used as a basis for determining economies resulting from the use of commodities. Comparisons were selected at random without using the entire material. The children became aware of the reason why school lunch meals were

high in food value and low in cost.

Teacher Number Five (Grade six)

Learning activities from the resource unit were selected from four sections by this teacher. These included Health; Cultural, Social and Spiritual Values, Social Studies and Arithmetic.

This teacher elected to have both the cook-manager and the school lunch supervisor talk with his class about the school lunch program as a Health activity. The cook-manager discussed her responsibilities in providing adequate and appetizing meals; the school lunch supervisor discussed general questions asked by the children.

The cook-manager explained her duties in preparing and serving the meals. She showed the children the records which she maintains and which include the amounts of protein foods, fruits and vegetables and butter served in proportion to the number of meals. She explained that though nutritional content of meals for boys and girls is the most important consideration, other qualities determine how much we enjoy eating the meal. Some of these factors include color, variety, texture, and flavor. In addition, the cook stated that even though a meal possesses all of these qualities it still can be unattractive and unappetizing if the meal is served carelessly. The fact

that we "eat with our eyes" plays a very important part in how much we enjoy the food. If foods are placed on the plate in such a way that hot foods are touching cold foods, or if the plate is crowded, or if foods run into each other, our eyes tell us that the food might not be good even before we taste it. It is for this reason that boys and girls assisting in the serving are always carefully instructed in the way the food should be placed on the plate.

Questions relating to the school lunch arose from time to time. As a result, this teacher suggested that the school lunch supervisor might be able to provide more complete information. The boys and girls made a list of questions in which they were interested and to which they would like to have answers. A letter was then written by a class member inviting the school lunch supervisor to speak to the class. The list of questions was included in the letter. At the meeting the questions submitted by the class were used as a guide though children felt free to ask additional questions. The questions related to food value, government commodities and costs of the school lunch. The questions relating to food value provided opportunity to explain nutritional requirements of the school lunch program and to explain ways in which these requirements are met. Though children knew that government

commodities were used as a means of providing meals high in food value at low cost, they did not realize that other benefits resulted from their use. The children became aware that the use of commodities provides opportunity to learn to eat foods with which they might be unfamiliar. The boys and girls learned that foods not grown in our state are usually more expensive than foods grown within the state and because the latter are more readily available we are more apt to learn to eat and enjoy them. Because the school lunch program is nation-wide some foods are received with which they are not always familiar. This provides an opportunity to learn to eat and to enjoy those foods. Examples included yams which were made available during the school year and figs made available the previous year. The children were interested in the information that yams are actually higher in food value than that of the Irish potatoes which they enjoy so much. This teacher reported that a greater interest was shown in the yams and that a greater effort was made to eat them after this discussion.

The class discussed school lunch menus and reasons for serving a variety of foods. The boys and girls decided which additional foods needed to be included daily in order for the menus to contain all of the Basic Seven requirements. Prior to eating lunch at noon the

children reviewed the food on their plates and determined the food groups to which food on their plates belonged.

One activity of the Health section which proved to be of considerable interest included the keeping of a record of foods consumed daily and other information suggested in the booklet entitled School Lunch which was listed in the illustrative material in the resource unit. The boys and girls were delighted with these booklets and completed the information in them very conscientiously. Though it was never suggested to these pupils that they complete the information before going outside for noon time activities, most children did not go outdoors until their record was complete. Upon completion, this information was used for general discussion of the items in the booklet.

The information of the Health section up to this point was studied for the purpose of preparing the class for planning menus to be used in the lunchroom. These menus were planned cooperatively by the class. In planning them, the children considered the information studied in class as well as learnings presented by the cook-manager and the school lunch supervisor. These menus pleased the children when they were served and they were proud of their part in them. This teacher's comment was, "This was one of the best discussions which we have ever

had. Everybody responded."

In the areas of Cultural, Social and Spiritual Values this teacher also chose several activities. The importance of designating foods by their correct name was stressed during a class discussion. Boys and girls developed an awareness of the desirability of using proper names for food and later were observed discussing food by name.

Children in this room participated in grace at meal time in a number of ways. Sometimes the class selected to say grace as a group, or individuals said grace for the group. At other times a sextette sang a prayer which was much enjoyed by other pupils in the room. Later the children preferred to sing a lovely three part song entitled, "Grace before Meat." Chimes were used to quiet other children in the room.

Records used for studying music appreciation were played to upper grade classes during meals. These were enjoyed by the children. The records for this activity were teacher selected because the number of records available were too limited to provide pupil learnings.

In Social Studies a member of the community engaged in farming spoke to the class on price support as the program affects them. This talk was well presented and developed excellent pupil understanding of the price support program through which the government makes

available certain foods for school lunch use.

At the end of the month children borrowed the bills from the lunchroom for their class study of Arithmetic. The boys and girls totaled these bills and compared the amounts with the money collected and the amount of government reimbursement anticipated for the month. These pupils realized that labor and a few other costs were not included in their calculations and, as a result, the information which they had did not represent a complete and true picture of the financial standing of the operation. From the experience, however, certain learnings evolved. For instance, they developed an understanding of the many costs which are a part of the cost of a meal and the differences in costs between the different food groups. The children were surprised at the amount of money spent in their school for milk alone.

Another Arithmetic activity included making bar and line graphs to show the percentage of the daily attendance participating in lunch at school.

Teacher Number Six (Grade six)

From the resource unit this teacher selected for her pupils from activities in Health, Arithmetic and Art.

Food needs of the body provided the first source of study from the Health section of the resource unit.

The food needs of adults compared to children was included. A list of activities performed by their fathers on an average day and a list of activities in which the boys in the class participated were placed on the board. The activities of the boys were, for the most part, more strenuous than those of their fathers. Children learned that adults are no longer growing and are not as active in most cases as children and as a result they require lesser amounts of some foods. Food habits acquired as children are frequently continued as adults, they learned. As a result, some adults consume too large quantities of energy foods, thereby becoming overweight.

The class learned that not only are the food needs of children different from those of adults but that food needs differ among children. A count was made of the children in the room of those who preferred active games and those who preferred quiet activities such as reading. Most children preferred active games but a few preferred more quiet activities. The children realized that their food needs are higher in the summer when they work in the harvest fields in the Salem vicinity.

Food needs were discussed in relation to the climate in which we live. For instance, the need for and the consumption of fats by the Eskimoes as compared to the need for fats in warmer climates was considered.

The improved diets throughout our country resulting from advances in food preservation methods and transportation were reviewed. The children learned that many perishable foods are now served out of season and in parts of the country where they are not produced.

Menu planning included another activity in Health. Five areas were marked off on the board, each representing a day's school lunch menus. Each area was divided into two columns. School lunch menus were analyzed for the foods which they contained from the Basic Seven food groups. Those foods included from the Basic Seven were placed in one column, those needed to complete the Basic Seven required in the other column. The children learned that the Basic Seven requirement is based upon a full day's food needs. The teacher then quoted menus from which children selected flaws. For example, some menus lacked protein and others lacked vitamins.

Each child planned a menu for a day based upon the Basic Seven. These menus were used as a basis for making posters which illustrated these menus through the use of magazine pictures.

A list of government foods being used currently in the kitchen was obtained from the cook-manager. These were listed on the board. Children agreed that the menus they were being served reflected the use of these foods.

The availability of these foods as a result of price support was explained to the children, both in relation to the price to the producer and the effect upon supply and demand as a result of the large quantities of these foods which are used in lunchrooms throughout the nation.

Children in this room were responsible for all meal ticket sales, an excellent Arithmetic activity which developed desirable leadership and character qualities. Children felt very responsible. The rule that two people must always be on duty was never disregarded. Even before the teacher was aware that a child assigned this responsibility was absent from school, some child always made it his business to learn about the absence and offer his services. A definite number of tickets and money for change-making were checked out each morning from the office. At the end of the selling period the number of tickets sold were balanced with the money on hand and the amount provided for change-making. Children carefully checked their accounts with the office secretary.

Another Arithmetic activity provided practice in making change and counting money after making change. For this activity money was borrowed from the office. Sums most frequently required for selling tickets in the above activity were practiced.

Children compared the amount of savings resulting

from the purchase of meal tickets by the week, month and year as compared to the purchase of daily single tickets.

Posters were made as a part of Art reflecting the savings of purchasing by meal ticket rather than single tickets and encouraging children to purchase by meal ticket. These posters were placed in different sections of the building. Another Art activity included the making of posters illustrating the Basic Seven food groups.

Teacher Number Seven (Grades five and six)

Teacher Number Seven taught his class some activities from all sections of the resource unit except Art.

At the beginning of the Health study, the opinions of the children were solicited relative to their interest in planning a week's menus for the school kitchen. Their exuberance was evidence of their interest. Planning menus for all the children in the school provided a challenge and they were delighted with the opportunity. The children agreed that better menus might result if they first studied menu-planning. Questions which they felt needed to be studied were listed on the board. These questions were grouped into four areas for study. These areas and a brief outline of the general information included later under each were:

1. Nutritional content of menus

   (a) This topic included a brief study of the function of proteins, carbohydrates, fats, and vitamins and minerals.

   (b) The Basic Seven was studied as a guide for planning daily menus adequate in essential foods.

2. Additional qualities of menus

   (a) The importance of color, flavor, texture and appearance in menu planning was discussed.

3. Cost in relation to menus

   (a) The class compared the food value and cost of steak to ground beef and liver, oleomargarine to butter, potatoes to potato chips, and plain bread to brown-and-serve rolls.

   (b) The children discussed the need to include government foods in school menus in order to control costs and increase food value.

To acquire experience in menu planning, a table was set aside and arranged with place mats. Using colored food models which are listed in the illustrative material in the resource unit, children arranged balanced menus on the mats. When this activity was over, boys and girls were allowed to repeat it after completing their other daily assignments. This proved a very popular activity. The extent of their interest was reflected in the fact that additional space for arranging balanced meals needed to be made available in order that all children who desired to participate in the activity outside of class time, could

do so.

The list of government foods was obtained from the cook-manager and the children proceeded to plan the school lunch menus. This was a group activity to which the entire class contributed their ideas. In spite of the similarities between the menus planned by the pupils and those usually served, these menus meant more to them. One child expressed his reaction to the menus by saying, "The food will taste better, now that we have planned it." Acceptance of food by this group of children has always been very good and might account for their unusual interest in the planning of menus. At the end of the school year, sixth grade pupils in this room who were entering junior high school in the fall wrote a farewell song. Included was the following verse, which is indicative of their interest in food:

We like to eat at _____ school,
All the food just makes me drool,
Hot cornbread and celery sticks,
Wished I knew what's in the mix.
We like to eat at _____ school,
All the food just makes me drool.

In choosing activities from the Cultural, Social, and Spiritual Values section of the resource unit this teacher had his children discuss good conduct and manners in line and at their desks while eating in their classroom. The learning experience provided opportunity to develop standards which resulted in a more pleasant lunch

hour. The boys and girls listed those manners which they thought all class members could and should practice. As a result of this activity, better manners were in evidence both when their food was being received and during their eating.

The boys and girls in this class reached their own decision relating to the saying of grace at meal time. At the time of the study the hostess led the class in a song. These pupils had the privilege of presenting to the class any grace which they had learned at home or at Sunday School by notifying the hostess. Children were interested in protecting the feelings of others and no child was required to enter into the activity.

Music during the lunch hour was a new experience for this class. The music on hand was limited to those music appreciation records used in music class. Children were given the opportunity to converse in natural tones during the playing of the records. They seemed to enjoy the quiet music in the background and there was no evidence of their trying to talk above it or of their being stimulated as a result of it.

Simple machines were studied in Science. These were first studied and discussed in the classroom. A visit was then made to the kitchen. Though the class was interested in locating examples of all simple machines,

the main object of the visit was for the purpose of illustrating how work is made easier by levers. As many small items as could be collected such as beaters, French knives, scissors and serving tongs were placed on the table in the center of the kitchen where all the children could see. The mixer being next to this table and the can opener being attached to the table made those two tools also available for observation. The teacher in reporting the interest of his class stated, "The children were very eager. They almost got on the table in their enthusiasm."

Mold and bacteria were discussed briefly. To demonstrate the action of yeast in the formation of carbon-dioxide, warm water, sugar and yeast were placed in a bottle and corked. The release of the cork convinced the boys and girls of the action of yeast.

This teacher developed a culminating activity by combining the study of Health with Social Studies and included both his fifth and sixth grade pupils. This activity was based on the topic "Basic Foods in the Americas." For example, meat-producing areas in all the Americas were pinpointed on a map. The meat processing centers in this country were located and, finally the importance of meat in the diet was reviewed. This technique was used to review other foods such as wheat, rice, and so on.

In Arithmetic this teacher had his children compare the cost of the meal served at school with the price of the same meal purchased in a restaurant. The reasons for the differences in price were discussed.

Another learning in Arithmetic resulted from determining the savings resulting from the purchase of meal tickets as compared to single daily tickets for a week, month and year. The reason for the difference in the charges was discussed. To create an awareness of factors which enter into the cost of products and services, many problems were presented by this teacher.

Teacher Number Eight (Grades five and six)

In order to provide her pupils with learning experiences related to the school lunch program, Teacher Number Eight selected activities from Health; Cultural, Social and Spiritual Values; and Art sections of the resource unit.

This teacher centered most Health activities around menu planning. The Basic Seven as a guide for menu planning began the series of activities from the Health section. After studying the seven food groups, the boys and girls made posters illustrating them with pictures. A week's school lunch menus were studied for their daily content of the Basic Seven foods.

Lunchroom observations proved effective in

developing some basic understandings relating to menu planning. For a period of two weeks a few moments were taken each day before boys and girls were seated in the lunchroom to determine the Basic Seven foods in the meal. In addition, the children observed color, texture, variety and the general appearance of the plate. These items were later discussed more fully in the classroom. These children saw the direct application of the factors in menu planning and understandings developed more readily than from study of a book. Children learned that careful planning, proper food preparation and careful serving results in more healthful, appetizing and attractive meals. In discussion, texture seemed a bit intangible, as compared to color which they could identify readily. After lunchroom observations, texture became more meaningful.

Prior to beginning the planning of school lunch menus by the children a list of government commodities, available to schools and being used at this time, were obtained from the cook-manager. The children looked up the food value of each food. They agreed that the food represented a wide variety of nutrients but protein and Vitamins A and C seemed to predominate. The importance of these in the diet of growing boys and girls was discussed. In addition, children learned that government commodities are purchased by the federal government to provide a fair

price to the producer and that schools receive them for the cost of shipping charges within the state. This practice, they learned, is one reason schools can provide nutritionally high foods at low cost.

The advantages and disadvantages of sending menus home were contemplated. The activity aroused limited interest. Perhaps there was less interest in this activity because most children ate regularly at school irregardless of the menu and only a few children brought lunches when the menu included dishes which they preferred not to eat.

From the Social, Cultural and Spiritual Values section the teacher chose several activities. The children decided to say silent grace. A monitor used a small bronze bell to indicate the grace period. This not only indicated the period of grace for this class but quieted all the other classes in the room.

Lunchroom manners aroused considerable discussion and interest. Situations were arranged in the classroom whereby children could practice good manners relating to conduct in the lunch line, while eating, when returning dishes to the scraping area and when working in the kitchen. This activity worked out remarkably well and gave children more confidence in the lunchroom and kitchen.

As a result of the interest demonstrated by this class in Health and the Cultural, Social and Spiritual

Values aspects of the school lunch program, a radio play based upon both sections was planned by the class as a culminating activity (Appendix C). The play was presented to other classes of the school over the public address system. In addition, a tape recording was made by the class. The teacher reported that the play was developed as follows:

> Ideas were suggested by class members and listed on the board. Each idea became the responsibility of a committee. Each pupil selected the committee on which he desired to work. After committees were determined, a chairman was selected by each group. The children worked on the play one-half hour per day for a two week period. This time included writing, practicing and presenting the play.

A comment in the school "News" and written by a member of the class, listed this activity as one of the four highlights of the school year. The teacher was enthusiastic. His comment was, "This was the most successful health unit I have ever taught."

In Art, members of the class arranged flower centerpieces for the lunchroom over a three-month period. These were taken to the lunchroom daily and returned to the classroom after lunch.

In Art, posters emphasizing food values and manners were made by the class. These were placed in the recesses of the in-wall tables. Other teachers commented that the

posters had a good effect on the eating habits of their classes. The children learned from the experience by deciding what should be included and how the information should be stated in order that it might be effective and be observed. One child who started the class with very poor manners became interested enough to make two posters. Needless to say, the boy's manners improved also.

Teacher Number Nine (Grades four, five and six)

Teacher Number Nine selected activities from the Health; Social, Cultural, and Spiritual Values, and Arithmetic sections of the resource unit to teach her children.

In Health the importance of milk in the diet was discussed. Dried and fresh milk were compared in food value and price. Reasons for using large amounts of dried milk in school lunch preparation of food were discussed as well as the price support of government commodities in relation to the school lunch.

The amount of dried milk solids which would equal the amount in a quart of milk was measured. The amount of water required to reconstitute the solids was placed beside the measured dried milk solids. This comparison was most interesting to boys and girls because they had no previous visual concept of the proportion of solids to

water. Also this observation presented tangible evidence of the food content of milk. Viewed this way children became aware that milk is a food instead of a beverage alone. The food value of milk was then discussed to determine the content of the solids which they were seeing. At the end of the class period the dry solids and liquid were mixed to show the appearance and consistency. The children learned that butterfat and Vitamin A of whole milk are missing from the reconstituted dried milk.

Other learnings came from the experience of seeing the dried milk. The children could readily see that in school lunch preparation or at home, additional milk solids can be added to foods to increase the food value. They also could see that these ingredients looked much like flour or baking powder and could be added to the dry ingredients instead of reconstituting them into liquid milk. The children recognized that this method would be less time consuming in quantity food preparation. The keeping qualities and storage of dried and liquid milk were discussed.

From the Cultural, Social and Spiritual Values section of the unit the teacher chose several activities. Interest was created in the area of manners by displaying posters around the room which demonstrated good and poor manners. These posters were listed in the illustrative

material of the resource unit. No attempt was made by the teacher to encourage discussion until inquiries came from the class. Opportunity arose during the business meeting of the day. A few children did not bring with them adequate preparedness in manners with the result that some commonly accepted practices seemed funny and absurd to them. The class listed ways in which their lunchroom manners could be improved and progress was made.

The discussion of food dislikes and learning to eat a variety was correlated with an assignment in their language book. The children wrote sayings relating to food likes, dislikes and learning to eat foods. Children were more willing to try foods. They showed greater improvement in accepting and eating new foods than in any other learning during the school year, this teacher believed.

The children in this room had always said grace. They had always been aware that every child had the privilege of not entering into this activity. Nevertheless, all children in this class have always entered into the saying of grace at meal time. The preference of this group has always been to sing a prayer which they especially like and of which they have never tired.

In Arithmetic, a set of graduated cans ranging from size Number 303 to Number 10 was used in a study to change pounds to fluid ounces. Additional Social Studies

learnings resulted from a discussion of the uses of the different cans and why different sizes are necessary. For instance, children learned that the use of small cans is impractical for school lunch or restaurant use because increased labor time would result. On the other hand, large cans would result in food waste in most homes, they decided.

One activity included by this teacher could not be included under any present sections of the resource unit. The pamphlet School Lunch listed in the resource unit as a part of the illustrative material, was reviewed in literature class as one type of poetry. At this time the class also reviewed the interesting art work which the booklet presented.

Teacher Number 10 (Grade five)

Art and Arithmetic were the only two sections omitted from this teacher's selection of resource unit sections. With few exceptions, all activities in Health were used. This teacher incorporated most of the information in the Health section with "When You Eat," a chapter in the fifth grade health book entitled YOU.

As an interest approach at the beginning of the study, the children were asked if they would like to plan menus for the lunchroom. They were delighted with the

idea. First, the teacher explained, they need to learn more about foods and menu planning. These menus were served to the entire school.

The class studied what foods compose each group and the functions of each in the body. Using a week's school lunch menus as a basis, the children as a group, planned breakfasts and dinners to meet the Basic Seven requirement for each day. Each child then planned a day's menu. These were evaluated to determine if the Basic Seven requirements were met. As a group activity, the different foods from their daily menus were listed on the board by Basic Seven groups.

After reviewing the different food groups, the decision was reached that a variety of foods make up the Basic Seven groups. The need for learning to eat a variety was then discussed.

The children reviewed the lists on the board to determine if they all liked all the foods. This class then discussed how one can learn to eat a variety. Some children admitted that they had learned to eat foods in the lunchroom which they had not liked at one time. One child indicated that the more often he ate at school the better he liked the food. This, the children decided, probably resulted from learning to eat the food served at

school. They were aware that some of each food was being placed on their plate to provide opportunity for them to taste and learn to eat foods unfamiliar to them.

The disadvantages of between meal eating were discussed. Each child made a list of desirable and undesirable snacks. In this school large amounts of mid-morning milk is served. The boys and girls were agreed that milk is an excellent snack.

A list of foods required by the government to be included in each meal, and copies of the record showing the kinds and amounts of these foods used daily were obtained from the cook-manager. From these records children determined that in their school the amounts and kinds of food required by the government were being served. The class had studied carbohydrates and as a rule, the children observed, that no record was maintained of them on these food record sheets. "Why, if they are important, are they not required?" was a stimulating question. The children also were referred back to the list of required foods. They noted that a serving of whole wheat or enriched white bread was specified.

The children borrowed a loaf of whole wheat and white bread from the lunchroom. They observed the labels and discovered that the whole wheat label did not mention enrichment whereas the white bread label stated that iron,

riboflavin and niacin had been added.

Specific foods were selected by this teacher for study. Milk, especially dried, proved to be of considerable interest. This interest developed as a result of a visit to the kitchen. Here the children observed fresh fluid, dried and evaporated milk while the teacher explained the differences between them. The cook-manager explained the uses of dried milk and the reasons why the school lunch uses large quantities in food preparation. She explained that large amounts of milk are received from the government for a nominal charge which includes only shipping charges within the state. As a result the dried product is a very inexpensive form of milk for schools to use. They learned that school cooks increase the food value of the meals they prepare because they include large amounts of dried milk at practically no additional cost. In the classroom children compared the food value of milk to coffee, tea and carbonated beverages. These differences impressed them and the children readily understood why milk is stressed for growing boys and girls.

The study of the need of fats in the diet developed into a study of oleomargarine as compared to butter.

During a discussion of the importance of protein in the diet, meat inspection as a safeguard to health was included. Some children were not aware that the meat used

in Salem's schools was United States Inspected.

The importance of Vitamins A, B, C, D and their sources were discussed. The children then collected pictures to illustrate the source of each vitamin. These were pasted on sheets of paper with each sheet representing a vitamin.

Children became very much aware of the care and preparation of fresh vegetables in relation to food value. This awareness was created as a result of a visit to the school kitchen and, later a visit to a local supermarket which provided the basis for their learnings. Children observed the care provided vegetables and fruits in the school kitchen. They were shown both the refrigerator and walk-in cold room. The cook-manager discussed some practices which she follows to prevent food loss.

At the supermarket, children had the opportunity to observe vegetables as they arrived at the store, the care given them prior to counter preparation, preparation for the counter and care at the counter. They learned that the care vegetables receive from the time they are harvested until after they are cooked determines the amount of food value left in the vegetable.

At this point the children agreed that they were ready to plan the menus for the lunchroom. The menus were planned as a group with all children contributing their

ideas. The experience was used as a culminating activity of their Health unit and, according to the teacher, was "really enjoyed by everyone." A committee took the menus to the cook-manager. The children were very interested in eating the foods planned by them. They had planned foods very similar to those usually included in the school menus. This was probably due to the fact that boys and girls included the same government commodities in their menus as are usually included. Their interest in these, however, was greater. The attitude prevailed that these were "our menus" and were the best menus of the year!

Practices relating to lunchroom sanitation were discussed. For instance, the teacher said, "A sign on the kitchen window of this school reads, Grade A. What does it mean?" From this discussion children learned that Oregon health and sanitation laws do not require inspection of school kitchens but that Salem's kitchens are inspected by the county health department at the request of the school district. The sign indicates that sanitary conditions and practices are observed.

During one of the visits to the kitchen, the cook-manager demonstrated dishwashing techniques.

This class gave consideration to all the activities under the sub-section Desirable Lunchroom Behavior of the Cultural, Social and Spiritual Values Section in the

resource unit. Children discussed and set up patterns for behavior in the serving line, at the table and when returning dishes for washing.

Though recorded music had been used regularly in this school as a noon hour activity, the records had been selected by the teacher. For this study, committees selected the records. In addition, as it happened, some children were practicing for recitals and so gave violin or piano solos. This opportunity provided experience for these children to play before a group. At the same time the music by these children provided interesting, entertaining and suitable noon programs.

Though no special visit was made to the kitchen to observe simple machines which were studied in the Science section of the resource unit, observations relating to them were made during the kitchen visit to observe refrigeration. The children located and discussed examples of inclined planes, pulleys, levers, and wheel and axle, as they appeared alone or in combinations.

In the Social Studies section, the effect of food upon the history and economy of the nation was discussed. For instance, the class discussion ranged from the discovery of America as it resulted from the search for a new route to the East to make spices more readily available, to the effect upon the economy of our country as a

result of serving over 11,000,000 school meals a day throughout the nation. The class discussed the effect upon our economy of the numbers of people employed in school kitchens and in food production and processing areas, as a result of serving lunches in the schools.

The food value of sweet potatoes, type of plant producing them, and the areas where they are grown, were studied. This study was an attempt to interest children in eating a food which is not produced in Oregon. Understanding sweet potatoes better made children more interested in trying to eat them. Of special interest was the fact that sweet potatoes are higher in food value than the Irish potato which they have been accustomed to eating.

This study of sweet potatoes led easily to the study of government commodities and price support of farm products.

Teacher Number 11 (Grade five)

In selecting learning activities from the resource unit, Teacher Number 11 chose activities from each of the Health, Science and Arithmetic sections of the unit. The greatest selection of activities was made from the Science section. Some incidental learnings resulted in the area of Cultural, Social and Spiritual Values.

The major learnings in the Health section resulted

from a visit to the school kitchen. Classroom preparation of pupils before the visit and review of classroom study and kitchen observation after the visit, contributed to the success of the activity. Prior to the visit, the class studied both the functions in the body and the sources of proteins, carbohydrates, fats, vitamins and minerals and their use in relation to menu planning. The class then met in the school kitchen in order that the cook-manager might discuss with the class, some ways through which the school lunch contributes to their health. She explained that learning to eat a variety of food is desirable both nutritionally and socially. Records maintained by the cook-manager which report the essential foods served daily and their amounts in relation to the number of persons served, were passed to the children for observation. These are used as a basis for determining if the meal conforms to the standards as set by the government in amounts of protein foods, fruits and vegetables, and butter or oleomargarine in proportion to the number of children and adults served. To a degree, this record indicates the adequacy of the meal. Copies of menus which had previously been used in the lunchroom were distributed to the children. An explanation was then given for including each food in the menu. There was some incidental class discussion concerning the pupils' conduct in the

lunch line. Some children availed themselves of the opportunity to become familiar with the tested quantity recipes used in the school kitchen. They were delighted to find their favorite recipes in this file. The visit made more realistic the meaning of nutrients and the children discovered that menus were planned with their nutritional needs in mind. The attitude of the children seemed to indicate a greater appreciation of the work of school lunch personnel.

For study of simple machines in Science, children brought examples such as scissors, egg beaters and grinders from home and demonstrated the use of these to the class. The class was then asked to divide a paper into four parts with the following headings listed: (1) inclined plane, (2) pulleys, (3) levers and (4) wheel and axle. A visit was then made to the kitchen to find as many examples of these simple machines as possible. Some children found as many as sixty illustrations. The class then went into the lunchroom to discuss the items under each heading. A committee was selected to discover instances of simple machines used in combination. The committee reported back to the group. Examples of such combinations included a can opener with both a lever and a wheel and axle, and door handles with an inclined plane and a lever. They seemed to understand how simple machines save time and

energy.

In the study of forces of energy, preparation of the class included a discussion of the meaning of energy, its sources and how one force of energy can be changed to another. The class was then divided into committees and each committee selected one form of energy to look for in the school kitchen. After the visit to the kitchen the committees reported back to a general meeting in the lunchroom. A discussion included ways in which these forms of energy change from one to another.

The class divided into committees to study friction. One committee worked on friction from the following angle:

Friction

A. Help	B. Hindrance
potato peeler	hot motor
knife sharpener	a tight door

A study of compounds and mixtures was included to develop some interest in Science and acquaint the class with a few chemical terms. A few common foods such as flour, sugar and vanilla were obtained from the kitchen. Physical properties were noted. From the study, children discovered simple scientific knowledge such as, an acid and a base give a neutral substance. New words were added to their vocabulary. These included mixture, compound, base, acid, salts, neutral, characteristics,

physical and chemical. The extent of their interest was demonstrated by the fact that all children wanted to do all experiments.

Weights and measures were studied in Arithmetic. First, children learned the tables of weights and measures in the class and solved problems applying them. They then went to the kitchen to observe the various measures used in food preparation. They looked at a bushel box for size and discussed the size of a peck. They weighed a pound of carrots and a pound of sugar and observed the difference in quantity between them. As a result of these observations, the units of measure became a workable concept, the relation of material to weights became understandable and children appreciated the value of learning tables of weights and measures. The teacher suggested that more experiences in the area of weights and measures could have been done and gave as an example the pouring of liquids from quarts to gallons to cups, pints and so on, to show relative amounts.

Teacher Number 12 (Grade five)

Teacher Number 12 used the resource unit related to the school lunch program by including learning activities in Health, Cultural, Social and Spiritual Values, Science and Art in the curriculum of her children.

School lunch menus were studied for the Basic Seven. The children found that Basic Seven foods were included in the school lunch menus but the day's requirements were not met. Further study helped them understand that the Basic Seven could not be completely met in the school lunch menus because the amount of food required in the Basic Seven food groups could not be included in any single meal. The children listed additional foods required each day to complete the Basic Seven. The menus were then studied for variety. In the week's menus observed by this class, milk was the only food duplicated in the same way during the week. The importance of eating a variety was discussed.

How to learn to eat a variety presented opportunity for an excellent exchange of ideas. It was interesting to learn that these children had actually been making a conscientious effort to learn to eat new foods without any previous discussion relating to it. At this time children exchanged ideas of how they learned to eat and like different foods. For instance, one child reported trying a food to save embarrassment to the hostess and found he liked the food. Another child was attracted to tasting a food by the attractive appearance. Children gained constructive ideas from each other. The desire to change habits permeated the spirit of the activity.

Advantages and disadvantages of sending the menus

to the home were weighed. Children indicated that most of their mothers refer to the menus to avoid serving the same foods in their evening meals. A few children admitted eating at school only on those days when foods are served which they especially like. Some children bring lunches from home which include those foods they have learned to eat. A few boys and girls indicated that their parents could not afford to have them eat at school every day. The few times these children are allowed to eat at school they like to select a meal which they especially enjoy and which their mothers do not prepare at home. The majority, however, indicated that they enjoy the food at school and eat regularly regardless of the foods on the menu.

From the Cultural, Social and Spiritual Values section of the unit, the teacher chose activities related to manners in the lunchroom. These included manners at the table and in line while receiving their food and when returning their trays. Considerable interest was shown and children were observed constructively correcting each other.

In the study of Science, the discussion centered on simple machines. Children visited the kitchen and recorded examples of each simple machine studied. The equipment in this kitchen is not as complete as the more modern kitchens in the district. The findings, therefore,

were not as great as they might have been in a more fully equipped kitchen. However, the teacher reported that the time was well spent. In addition to the planned learnings children acquired incidental learnings. For instance, children observed air drying of dishes, refrigeration of fruits and vegetables, records maintained by the cooks to determine nutritional content of the meal and sanitary aspects of the kitchen.

Another teacher in the building and a former pharmacist took the class on a tour of the building, locating fire extinguishers and explaining the reason for their placement. In his discussion he included information relating to the kinds of fire extinguishers and their operation. Children were especially interested in the fact that in this building 21 fire extinguishers were placed 50 to 75 feet apart and that these are recharged each year. A simple experiment demonstrated the action of a fire extinguisher to children. He poured sulphuric acid into soda water solution and then poured some of the solution on a lighted match. A fire extinguisher was brought to the classroom for discussion. This was a most enlightening experience and one the children may not readily forget.

The class discussed mold and performed a simple experiment of molding bread. After sprinkling the bread with water it was tightly covered and placed in a warm

place. The conditions under which mold growth occurs was readily evident.

In Art, children took turns arranging a central flower arrangement. Children showed enthusiasm, interest and originality in the project. They also made posters during the study of menus. These showed the different foods containing fats, protein, carbohydrates, vitamins and minerals.

Teacher Number 13 (Grade five)

Teacher Number 13 taught activities related to the school lunch program units on Health and Art.

In Health the class studied the need of the body for protein, carbohydrates, fats, and vitamins and minerals. Though vitamins and minerals were listed as needs they were not studied in detail. Proteins, carbohydrates and fats were listed on the board with as many foods under each classification as the children could identify. The children then took some of the foods under each classification and looked up their food value. From this they learned that most foods contain an assortment of nutrients. For instance, though meat was listed under proteins, it contained vitamins, minerals, and fats. They noticed, too, that though some foods contain similar nutrients, they contain them in different combinations. Eating a variety

was discussed in relation to the composition of foods. The children realized that eating a variety provides a greater selection of nutrients and this in turn might result in maximum growth and health.

The difference between adult needs and the needs of children developed as a result of this teacher bringing her lunch from home. Considerable interest was evident. The difference in energy needs was discussed. Children learned that excess weight results from the sum total of all food consumed during the day in the three meals and any snacks. This teacher explained that she was reducing only the amount of energy foods in her meals. They were interested in observing her lunches and noted that she brought increased amounts of proteins and vegetables. Children noted that though most children in the class go back for second helpings of food, none of them were considered overweight.

During the study of Health, children made a summary of the day's lesson in an outline form and compiled the information into a booklet. They then made covers for the booklet in Art class.

The boys and girls in this class were assigned the responsibility for the bulletin board. The children were divided into committees. Each committee kept a bulletin board display for a week showing the food values found

in the school lunch each day. The material and arrangement in presenting this information was determined by each committee. A typical display included pictures of food representing each meal with the food values listed under each food.

Children maintained a daily record of the foods eaten for a week in a booklet entitled School Lunch, which was one of the pieces of illustrative material provided this teacher. The interest by the pupils in maintaining the record in this attractive little booklet surprised the teacher. The children were careful to remind the teacher each day when the time set aside for these recordings arrived. The information which the boys and girls recorded and the poems in the booklet relating to food habits were discussed upon completion.

Children also made center pieces for the luncheon tables for special holidays. These consisted largely of arrangements of flowers and greens. According to this teacher this activity comes with "built-in" interest. Children love to do it and the pleasure of eating is enhanced by the attractiveness of the lunchroom. Some children who do not enjoy other forms of art find this a rewarding experience.

Teacher Number 14 (Grades four and five)

Class activities by Teacher Number 14 were selected from the Health; Cultural, Social and Spiritual Values; and Arithmetic sections of the resource unit.

Health activities were begun with a study of the Basic Seven foods. School lunch menus were analyzed to determine the amount of Basic Seven foods which they contained. Additional foods to complete the Basic Seven requirements for each day were suggested. Each child kept a record of all foods eaten daily over a period of a week. This included all snacks consumed during the same week. The list of foods eaten for the week was then checked against a Basic Seven chart. This chart included divisions containing the Basic Seven food groups down the left hand side of the paper and the days of the week across the top. From this chart, children determined the extent to which they were not eating adequate amounts of the Seven Basic foods. A bulletin board display interpreting the Basic Seven was used for considerable reference by the children.

A group of school lunch menus were planned as a class activity with all children participating. These were not submitted to lunchroom personnel for preparation.

The food nutrients and their function in the body were limited to rather basic information which children

on this age and grade level could understand. Children brought starches, sugars and fats from home. The starches and sugars were tested by the iodine test to show children one of the ways by which foods might be tested to determine their content. As a result of this activity, children remembered energy foods better. The necessity of eating a variety of foods in relation to the food needs of the body was discussed.

The sending of menus to the home was another activity selected from the Health section by this teacher. This class indicated that they enjoyed the use of them as much as their mothers. Their mothers observed them for reasons different from those which aroused their interest, they felt.

Though the eating of desserts was not discussed in class, this teacher during lunch duty occasionally noticed children who never ate their dessert. Because most of the lunchroom desserts contain fruit or eggs, she encouraged these children to complete their full meal. She attempted to help children understand that dessert at school is not planned to be "extra" and that part of the essential foods are usually included in their dessert. She found children usually more willing to try their dessert after a discussion with them.

The teacher next chose activities from the Social,

Cultural and Spiritual Values section of the resource unit. The children in this class discussed the saying of grace before lunch at noon. They decided that an expression of gratitude for the good food they receive was desirable and agreed to sing a prayer prior to going to the lunchroom at noon. This decision resulted in a daily activity which the children enjoyed and never forgot.

In Arithmetic there was a discussion of costs other than food, which contribute to the cost of a meal at school. The opportunity for this discussion arose when children questioned the reason why straws were not being used with the newer cartons.

Another activity in Arithmetic included techniques of making change. The teacher and the pupils pooled their money to provide this real life experience. The teacher presented problems similar to those children might encounter while shopping in a grocery store. For instance, if a person bought one can of tomatoes for 18 cents and had $.25, $.50 and $1.00, which would he give to the checker? Demonstrate how the checker would count the money when returning it to you. This teacher suggested that this activity required comparatively little money. The children loved the experience, considered it entertaining, and learned while doing it.

Measures became more meaningful as a result of the

activity below. Measures of one gallon, one quart, one cup, 1/2 cup, 1/3 cup and 1/4 cup were borrowed from the kitchen. The containers were filled with water and poured from one to another. Problems were presented for solution by the children. For instance, if four cups equal one quart, one cup is what part of a quart?

Teacher Number 15 (Grades four and five)

Teacher Number 15 taught a few activities from all sections of the resource unit except Art.

The study of menu planning was selected from the Health section and was begun by acquiring basic knowledge relating to essential nutrients and their function in the body. This did not include a comprehensive background due to the grade level of these pupils. A week's school lunch menus were reviewed to determine which foods were included for their protein, carbohydrate, fat and vitamin and mineral content. The foods in the menu were listed on the board under each group. The effect of the school lunch upon the eating habits and health of boys and girls, now and later, was discussed.

The Basic Seven was then studied. Each child planned a daily menu containing breakfast, lunch and dinner. These were read and discussed, and if they failed to meet the Basic Seven requirements they were

rewritten. Each child then made a poster using magazine pictures to illustrate a balanced meal. After learning the constituents of a balanced diet and the use of the Basic Seven as a guide for planning, children summarized additional information which they considered especially important. The children appeared very interested in the above activities. Mothers reported increased interest in the consumption of balanced diets at home.

Bread was studied under carbohydrate foods. A visit was arranged to a local bakery. Children wrote reports of the visit, resulting in greater understanding of how "the staff of life" is prepared on a commercial basis.

In the Social, Cultural and Spiritual Values section the class outlined desirable lunchroom behavior. More time was spent in discussing good manners at the table as a result of evidence of a greater need in this area. A considerable difference in both eating habits and conduct was observed. Manners were reviewed during class meetings as the need arose.

Manners, in relation to kitchen vists or field trips away from the building were discussed prior to the visit to the bakery and again before visiting the school kitchen. Boys and girls became aware that such opportunities always entail extra work and interruptions for those making

visits possible. Therefore, they agreed that their visit should interfere to the least possible degree with the work of persons where visitations are made.

The question of grace at meal-time provided an interesting discussion. The children in this class decided in favor of saying grace and selected silent grace as the method most desirable for their group.

Lunchroom music was a new venture for this teacher and the pupils in her charge. During this teacher's period of lunchroom duty children brought a large collection of records from home. From this selection the teacher chose those records which she considered most suitable. Children were not allowed to talk during the actual playing period but were given the privilege of talking between records. Music developed into a very popular activity. When this teacher was again responsible for lunch duty, children begged her to resume the activity. This teacher reported that screening of records proved quite time consuming. It was her opinion that only through working with a children's committee could one determine whether work for the teacher was increased or decreased as a result of their part in the activity.

After a study of simple machines and friction in Science, children visited the school kitchen. Classroom study of inclined planes, pulleys, levers and wheel and

axle increased in interest and understanding as a result of direct observation of their application. An opportunity was given the children to select one appliance for more thorough study and observation. The mechanical potato peeler was selected. This machine fascinated the children because no machine in the home performs the same function. In the opinion of this teacher, this machine provides an excellent example of a useful application of friction.

In the Social Studies section of the resource unit this teacher selected the study of yams in relation to their source, food value and type of plant producing them. This study was based on information sent to participating teachers by the school lunch supervisor. Yams were selected for this study to increase greater acceptance of this government commodity in the lunchroom and at the same time provide observation and study of a food with which many children in the Salem area are not familiar. Because yams and sweet potatoes are not produced in the northwest, many children look upon them as holiday foods since their use in some homes is limited to special occasions. Little opportunity, perhaps due to cost, has been provided children to become familiar with them. As a government commodity, yams were accepted by the Salem school district in amounts necessitating more than occasional use of them. This meant using them in ways

new to many children. In class, boys and girls looked up the difference between yams and sweet potatoes. Later they observed the difference in the outside and inside appearance of yams and Irish potatoes. The difference in food value, they learned was to the advantage of the yams. Arithmetic was correlated with this study. One child secured a recipe for yams from the cook-manager which the class decreased to serve six. These the children took home with them. This study resulted in greater acceptance of yams in the lunchroom by these children.

Meal ticket problems selected by this teacher from the Arithmetic section were completed. Children figured the amount of savings resulting from purchasing a meal ticket for a week, a month and a year as compared to the purchase of single tickets over the same period of time.

Teacher Number 16 (Grade four)

Teacher Number 16 selected activities from all the sections in the resource unit. The greatest number of selections were made from Health, from which very few activities were omitted.

In Health, children first studied school lunch menus and food records. Menu planning guides relative to color, texture, variety and flavor were listed. A week's school lunch menus were reviewed to determine the extent

to which they reflected the application of these guides. The teacher asked the group to determine which of the guides deals the most nearly with their health. This resulted in a discussion of the reasons for eating of a variety of foods.

The teacher explained the Basic Seven and its relation to meal planning. She explained that the Basic Seven is based upon a full day's meals. Breakfasts and dinners to meet the Basic Seven requirements were added to school lunch menus.

The children reviewed the list of foods required daily in school lunch menus, as stipulated by the federal government. The teacher asked the question, "If a school lunch menu includes the foods required by the government, is the Basic Seven requirement being met?" After some deliberation, the children decided that the foods required by the government are Basic Seven foods but the Basic Seven requirements cannot be met by school lunch menus because the number of servings required from the different food groups cannot be included in a single meal.

Food record sheets maintained by the cook-manager to determine if foods in each meal are included in the amounts stipulated by the government, were consulted by the children. With the help of the teacher they reviewed the calculations made by the cook-manager and determined

that the federal requirements were being met.

Children noted that no record of carbohydrates was included in these food records. The teacher explained that this record includes only the most essential foods. The class was then referred to school lunch menus and a list of the carbohydrates which were included in the week's menu were listed on the board. This teacher then suggested they divide these foods into two groups, those which most children in the room liked and those which most children in the room liked least. The children experienced difficulty in finding carbohydrate foods for the latter column. This teacher then explained that most people like carbohydrate foods and as a result most people probably consume a sufficient amount of them.

The children were asked if they would be interested in planning a week's school lunch menu. If so, the teacher would discuss the feasibility of it with the cook-manager. This they wanted to do. After consulting with the cook-manager the teacher reported that arrangements had been made and a week had been set aside when their menus would be used. This teacher stimulated interest by making the children feel that this activity was a privilege. She pointed out to her children that no other class in the school had previously planned menus for school lunch use. According to the teacher, "This was our most profitable

activity. Children were enthusiastic."

Prior to planning the menus a child obtained a list of government foods in the school lunch storeroom at the time. Using the list sent to the teacher by the school lunch supervisor, which included the shipping charges paid by the school district for the government commodities and their wholesale value, the savings were compared. An awareness was created of the reason why good meals could be served at low cost and the children agreed that the menus they were going to plan should include government commodities to the same degree to which the school lunch supervisor includes them in her menus. This discussion also provided an opportune time to include a discussion of commodities in relation to price support. This was an excellent learning situation because the children had the opportunity of working with a realistic situation just as it exists--from price support, to commodities, to the school, to menus, to the child.

An interesting discussion developed relating to desserts. At first some children thought dessert was just "extra." After consulting school lunch menus they decided that the most common dessert included fruit, either alone, in combination, or in baked products. Baked products, they observed, usually contain eggs. Puddings, rich in milk and eggs were frequently included.

The group came to the conclusion that in addition to satisfying the appetite and adding interest, the dessert should be equal in food value to other foods in the meal.

The school lunch menus were planned as a group. Upon completion, a committee took them to the cook-manager for criticism. She suggested only one change. The boys and girls had included two different kinds of cobblers on successive days. She suggested that their meals would be more interesting and the menus would include a better variety of foods if they were to change one dessert. After making the change, the menus were prepared and served in the lunchroom. They were proud and anxious that other pupils in the school know that "we planned them."

After planning menus, government commodities were studied further. This time labels of government foods were compared to labels from other sources. Cans of commodity foods and some from regular purchase were brought to the classroom. The children noted that government commodities were easily identified.

Food needs of children as compared to adults were discussed. They pondered the reasons why adults might gain weight on menus planned for children.

A discussion relating to sending the school lunch menus to the home included advantages and disadvantages of the practice.

Disadvantages of between meal eating were considered. After discussion, children made lists of desirable and undesirable between meal snacks.

The study of milk was selected from the Health section, because of its importance in the diet of growing boys and girls. Then different forms of milk were discussed and fluid, dried and evaporated milk were borrowed from the lunchroom for observation. Suitable care of milk was considered by relating the study to Science. Milk was compared to tea, coffee and carbonated beverages in food value.

Another point of discussion arose from the question, "Why don't we ever have chocolate milk at school?" Two possible reasons evolved from the discussion. These included (1) that sweet foods lessen the appetite for other foods, and (2) a preference might develop for flavored milk. This is not desirable because chocolate contains a stimulant similar to that in tea or coffee though in lesser amounts.

One child was appointed by the teacher to interview the cook-manager for information relating to the use of butter or oleomargarine in the kitchen. He reported to the class that either could be used. The price of oleomargarine and butter were compared. This, the children decided, was apparently the reason they were using oleomargarine at home.

The body's need for vitamins, minerals and roughage was studied. These children learned that the federal government specifies three-fourths cup of vegetable or fruit or both for each boy or girl eating a meal at school in order that these needs might be met.

Sanitary kitchen practices to protect their food and their health were discussed. The class read and discussed "Guides for Children Employed in School Kitchens," an outline prepared for Salem's schools. The children understood the reasons for each of the rules listed in this outline.

After completing the section relating to Health, several activities were selected from the Cultural, Social and Spiritual Values section of the resource unit. Children suggested guides for good manners in the lunch line and when eating at the table. To improve their table manners a group of children suggested an idea which they had used at a 4-H gathering. This idea was modified and used. As a result, each Wednesday the children had a manners contest. One person graded members at three tables. The grading consisted of a demerit for a poor manner. In addition to manners relating to eating, improper remarks about food or inappropriate table conversation were included in the grading. At the end of the period the demerits were totaled to determine which table

or tables received the fewest demerits. The children enjoyed this contest. This teacher reported that the contest did not seem to restrict the activities of the children or reduce their enjoyment of the meal.

The class listed reasons why they should not discuss food dislikes in the serving line. As a result of the discussion, they agreed that it was more desirable to encourage other boys and girls to like foods rather than to discourage them from eating foods.

Children reached their own decision relating to the saying of grace at meal time. They decided that class members should take turns being a leader. At the beginning it was the responsibility of the leader to select a grace from a song and two verses which they had agreed upon. Later the class decided to sing a two-part song each noon which they liked especially well.

One noon hour activity consisted of presenting a play on table manners which class members had planned. A demonstration table was used as a part of the activity in the play. Another noon hour activity which was frequently enjoyed included a period of "show and tell." They enjoyed this activity in the relaxed situation of the noon hour.

From the Science section, this teacher selected for study, changes in food, including yeast, mold and bacteria.

Changes in food resulting from cooking were related to yams. The unpeeled yams were shown to the class. They were then cut in half and passed around for observation. Reasons were discussed why yams might be preferred cooked rather than raw. Cooked yams, they thought, would be more palatable and probably more digestible. By cooking them many variations in flavor and appearance could be produced. The children suggested ways in which yams could be prepared. Changes in food due to the action of bacteria was discussed. They observed the spoilage of Irish potatoes as it was spread from one potato to another.

Cultures were made of the air in the kitchen by allowing the media to stand in the kitchen for ten minutes, another was made by allowing the media to set on the rest room floor the same period of time, and a third was made from dirt removed from under a child's fingernails. Much interest was in evidence. The culture from the fingernails grew tremendously. As a result the teacher stated, "handwashing was no longer a problem in this room."

Evidence of the formation of gas by yeast was observed in the holes of bread during the lunch hour. Mold was studied by borrowing tomatoes from the kitchen. One sample was kept in a warm place, the other was stored in the kitchen refrigerator. The two were compared after

mold growth developed.

Where foods are produced proved an interesting study in Social Studies. Containers of foods from the kitchen were brought to the classroom. Children observed the labels and pinpointed the distribution centers on a map. As a result, children learned the major distribution centers on the west coast.

Two activities were selected by this teacher from the Arithmetic section. The information sent to the teacher from the school lunch office relating to the shipping cost of government commodities versus wholesale cost was used for determining the difference in economies resulting from the use of government commodities.

Savings resulting from quantity purchase of 100 cases as compared to purchase of one case and 10 cases were determined of a number of articles. Savings resulting from the purchase of meal tickets as compared to purchase of meals by single daily tickets, were determined for a week and a month. The estimate for a year was considered beyond grade level of this group.

In Art children made place cards. They arranged a place setting illustrating the use of place cards. A bulletin board interpreting the food content of different meals in relation to the Basic Seven was developed by the class and displayed in a hall near the classroom.

Teacher Number 17 (Grade four)

Activities, by Teacher Number 17, were selected from Health; Cultural, Social and Spiritual Values; and Art of the resource unit. The largest selection of activities came from Health. A discussion of the importance in the diet of proteins, carbohydrates, fats, vitamins and minerals provided the first activity of the Health section. Major emphasis was placed on the first three nutrients. Foods from school lunch menus were selected and classified on the board. Children discovered that most school lunch menus contain more than one source of protein. Some children had considered animal sources the only protein foods. They were surprised that peanut butter and dried peas and beans were also a source of protein. They recalled that peanut butter was used in many different ways in the school lunch. As a result, these pupils decided that their bodies secure a considerable amount of protein from this source.

A Basic Seven chart was placed on the bulletin board for study. Its importance as a guide for selecting essential foods in proper amounts was discussed. The children became aware of the importance of eating essential foods before eating less essential foods. They learned that not only is it important to select foods from the Basic Seven but that it is even more important that they

be eaten.

The purpose of eating a variety was discussed. The children discussed the methods through which food likes might be increased. A suggestion was made that eating in the lunchroom every day instead of only those days when food is served which they have learned to like is one way. Another suggested, "that eating all the lunch our mothers send from home if we carry a lunch pail or sack, instead of throwing what we like least in the garbage," might be another. "Clean-tray" charts were kept for two months. Class members kept a record of the daily meals which were entirely consumed. This was a way, some children admitted, through which they had learned to eat new foods.

This teacher stated that information relating to government commodities was too advanced for fourth grade pupils. She indicated, however, that they understood that a relationship exists between commodities and the low-cost of school meals.

The children were interested and curious that the teacher was bringing her lunch. This developed into an interesting learning situation.

Sending of the school lunch menus to the home was discussed in relation to both advantages and disadvantages.

The food value of milk and its care was studied. The relationship between milk and bacterial growth was

first discussed. A discussion of suitable care of other foods was included. Demonstrations of improperly and properly packaged foods were carried out. For instance, crackers were left open carelessly and others were left carefully packaged. Later the results were compared. Cream and left-over potatoes were both uncovered and covered in the refrigerator and the differences compared.

The study of the care of fresh foods to protect and preserve their food value followed. A committee was appointed to discuss with the cook-manager the care she gives foods to protect food values.

Disadvantages of between-meal eating were reviewed. The children learned that of all between-meal snacks, milk is the wisest and most beneficial choice. This was the reason, the teacher explained, why mid-morning and mid-afternoon milk is made available to them in their school.

Several activities were selected by this teacher from the Cultural, Social and Spiritual Values section.

In discussing desirable lunchroom behavior the class set up patterns for behavior in the lunch line.

The class practiced such manners at the table as chewing quietly with the mouth closed, breaking food or sandwiches into bite size portions before eating and keeping arms at the sides. The teacher reported one of the greatest improvements resulted from this study.

She said, "The children enjoy their lunch time now and very rarely do we have infractions of rules of etiquette."

The children in this class determined daily the kind of grace they preferred--sometimes it was a song, at other times a verse. This teacher stated that the saying of grace contributes other benefits in addition to expressing gratefulness for food. She says, "It is one of the best ways to start the meal in a gracious, quiet atmosphere and is conducive to good behavior. Ill manners and boorishness would be incongruous after grace is said."

In their Art class the children made centerpieces for the lunchroom tables. Most of these were of flowers and greens. For Easter, wheelbarrows were made of cheese boxes and filled with flowers for centerpieces.

Another Art activity included the making of cartoons and caricatures for interpreting good manners to the children in the lunchroom. These portrayed right and wrong table manners. Some statements used for these included: Our kitchen is Grade A. Is our lunchroom conduct Grade A, too? Another, do you say, "I don't want any of that 'stuff'?" or "Just a small serving, please"... Still another included two pictures of food being held on a fork, stating, "Do you hold your fork like this, or like this?

Teacher Number 18 (Grade four)

Teacher Number 18 selected school lunch activities from Health; Cultural, Social and Spiritual Values; Arithmetic and Art of the resource unit.

In Health the relation of the Basic Seven to menu planning was studied. The children learned that the Basic Seven was a daily guide for selecting and eating those foods most essential to the body. School lunch menus were viewed for their content of Basic Seven foods. From the experience, the fact became apparent that an entire day's menus are required for determining if Basic Seven requirements are being met.

School lunch menus were evaluated for variety. In the two-week period which the children observed, only milk was used in the same way more than once. Reasons for serving a variety were studied. They agreed that a variety adds interest to meals, results in better growth and better health, and reduces embarrassment when offered food away from home.

The teacher perceived that a few children were eating no breakfasts and that poor breakfasts were being consumed by others. As a result, breakfast was emphasized in relation to the Basic Seven. Questions asked by the children demonstrated considerable interest.

The children planned a week's menus suitable for

their homes. These were evaluated to determine how nearly they met the Basic Seven standards. Most girls in the class prepared the evening meals using these menus. The girls were very interested and informally reported their progress to the teacher. In discussions during parent-teacher conferences, mothers appeared both interested and pleased with their daughters' experiences at home.

A number of learnings resulted from maintaining records in a booklet entitled "School Lunch", which is in the list of illustrative material in the resource unit. This attractive booklet with its catchy poems and pictures fascinated the children. They conscientiously kept the records suggested in the booklet. This included, the number of minutes taken for lunch, whether they were polite, whether their plates were left clean, and a record of all foods eaten for lunch. Part of this information was later tabulated and correlated with Arithmetic in making bar graphs. These graphs were based upon the number of minutes children spent for lunch, the amount of milk consumed and the numbers of servings of vegetables eaten.

Information from the school lunch supervisor relating to yams was discussed. This food was made available by the government in amounts which made possible the serving of them in a variety of ways. From the

discussion of yams developed questions relating to other government commodities. As a result the school lunch supervisor was invited to spend a period with this class. Prior to the visit, questions of interest to the children were listed on the board. Because this list was longer than the number of questions which could be answered and discussed in one period, children were asked to vote for the ten questions they most wanted answered. On the day of the visit the names of the children whose questions were selected were listed on the board in the order in which they would have an opportunity to ask their question. This resulted in covering a wide range of information in a comparatively short period of time. Children were provided opportunity to ask additional questions as the need arose. An example of a question asked was, "Why are we having so much ham?" At first this question was interpreted to connotate excess use of ham in the menus. After answering the question, children were asked if they liked the ham. They all favored even more of it. These children had recognized that ham is expensive and they were interested in knowing how this food could be served at the low price of school lunch meals.

Children compared the food value of milk with tea, coffee and carbonated beverages. Though children were aware that a difference existed, most children had not

been aware of the degree of difference.

Activities of the Cultural, Social and Spiritual Values section selected by this teacher included suitable lunch line conversation. A list of food-likes representing all children in the room was placed on the board. Dislikes were compiled in the same manner. The second list was considerably shorter than the first and came largely from the same children. The class decided that most children like most foods though a few children like rather few foods. The effect of commenting on food while in the lunch line was discussed and children admitted that they were influenced by the opinions of others. The class agreed that instead of expressing a dislike, a simple statement such as "A small portion, please" is much better. The children decided that as menus are posted in each room of the school they should avail themselves of the opportunity to read the menus and learn the correct name of each food being served.

Two activities were used from the Arithmetic section. In the first activity, children discussed differences between purchasing in small versus large quantities. They then calculated the savings resulting from quantity purchase of 100 cases of four commonly used food items as compared to the cost of these foods in single case and 10 case lots.

In the second activity the children used information sent to participating teachers by the school lunch supervisor to figure economies resulting from the use of government commodities as compared to the cost of the same items purchased through regular channels. Children not only enjoyed the activity but developed a better understanding of the reason why school lunch meals are low in cost.

As an Art activity, children made posters relating to conduct in the lunchroom. These were placed in in-wall recesses in the lunchroom. The children contributed a list of suggestions for conduct improvement. They then voted for those which they preferred to make. A few suggestions which were used included: "Chew Your Food Well Every Day and Your Aches Will Stay Away," "Do Not Talk Too Much While You Are At Lunch," "Good Table Manners Bring Big Banners."

Teacher Number 19 (Grade four)

Activities from Health; Cultural, Social and Spiritual Values; and Science were selected for class study by Teacher Number 19.

In the Health section, school lunch menus were studied for color and variety. Children recognized that color makes a meal more appetizing and stimulates the appetite. Each day for a week the colors on their

plates were observed at meal time. One day a child remarked that the plate was as "pretty as a picture." Children admitted learning to eat a variety as a result of the different foods served in the lunchroom. One child remarked that learning to eat new foods was not difficult because "We have such a good cook. The food always tastes good." Boys and girls agreed that more pleasure results from eating many foods. The class learned that the main reason, however, for serving a variety of foods is for the purpose of making available a large assortment of nutrients which are necessary for the best possible growth and development of their bodies.

These children maintained a full month's record of the foods eaten. They enjoyed keeping this record and it did not appear to be a burden in spite of the long period of time. The information was discussed in relation to the Basic Seven. Several mothers reported increased interest at home in selecting Basic Seven foods as an outgrowth of this activity.

The study of food value of bread was another activity selected from the Health section. One child prepared and presented a report on the food value of bread. A loaf of white bread was then borrowed from the kitchen and the label observed. The reason for enriching white bread and not enriching whole wheat bread was

discussed. Children were asked to look on the sack of flour at home and to report to the class if the flour they use is enriched. Several children responded and were delighted to report that they found it to be enriched.

The advantages and disadvantages of sending menus to the home was discussed. The teacher reported that in this class the children and their parents appreciated receiving the menus.

From the Cultural, Social and Spiritual Values section of the resource unit this teacher chose several activities. Children discussed manners in school lunch line and at the table. After this discussion, children voted, first by the day and then by the week, for the class member practicing the best table manners. Though all children seemed to enjoy this activity, girls indicated greater interest than boys. Some children showed remarkable improvement in manners whereas a few demonstrated very little progress. Considerable improvement was shown in the selection of table topics and conversation.

These fourth grade children learned to identify food by its proper name. Each day for a week the menus were reviewed before going to the lunchroom to learn the names of the foods being served. After this activity children were observed continuing this practice.

Originally members of this class decided to say

grace in the classroom in order to make possible the inclusion of those pupils going home for lunch. Later the class decided to say grace in the lunchroom because most of the boys and girls were eating lunch at school. One of the duties of the hostess was to signal the period of grace. This she did by tapping lightly on the tray with a fork or spoon. The children looked forward to host or hostess duty including the responsibility for indicating the silent grace period. Additional responsibilities of the hostess or host included, (a) signaling pupils to be seated, (b) beginning to eat first as a signal for others to begin, and (c) encouraging suitable topics of conversation.

In the study of Science the study of simple machines, forces of energy, friction and insulation as outlined in the resource unit were studied. After study the pupils made a list of questions relating to the ways in which the aspects of Science applied to the kitchen and increased its efficiency. A committee of six pupils then went to the kitchen under the supervision of the principal. The principal's acceptance of this responsibility left the teacher free to remain with the larger section of her class. The reactions and recommendations of this principal were as follows:

1. The children had been exceptionally well prepared for this visit. He was amazed how much the children knew about machines and the intelligent questions they asked. The boys and girls readily found examples of the items discussed in class. This principal considered the extent of previous preparation and follow-up after returning from such a visit of vital and equal importance in obtaining the greatest benefit from this activity.

2. He recommended the use of different aspects of this activity for grades four, five and six.

3. He rated this a very worth-while learning experience. He thought that the fact that this committee spent about 45 minutes in the kitchen without lag in interest is evidence of the appeal of this activity.

4. Incidental observation proved very beneficial. For instance, the cook was preparing yeast rolls at the time. Considerable interest was shown in their preparation and learnings relating to the action of yeast in dough were significant.

5. He stressed the importance of careful scheduling with school lunch personnel to avoid the least possible interference with kitchen efficiency and operation.

6. The children considered this opportunity a privilege and were well mannered and courteous.

After the visit to the kitchen, members of the class committee presented interesting and worth-while reports.

Teacher Number 20 (Grade four)

Experiences from Health; Cultural, Social and Spiritual Values and Arithmetic were selected from the resource unit by Teacher Number 20.

Most of the activities from the section in Health were combined into a study of the Basic Seven foods. The class discussed the meaning of the Basic Seven, the food groups which are a part of the Basic Seven and the foods which make up each of the food groups. They examined a week's school lunch menus to determine which Basic Seven foods were included and which might be added to meet the Basic Seven requirement for each day. Children became aware that a large variety of foods are included in the Basic Seven.

The purposes of serving a variety of foods at home and school were considered. Class members listed foods served at school which they had not always enjoyed but which they had learned to like. The reasons for eating a variety were summarized as follows: (a) the probability of supplying the body with food nutrients for maximum growth and health is increased, (b) social poise is greater when as a guest one need make no apologies for limited food habits, and (c) food is more readily digested if one enjoys the food that is eaten.

The question, "Why does the cook place some of each

food on our plates?", was asked by the teacher. After weighing a number of ideas contributed by the class, the children decided that it was done to acquaint them with unfamiliar foods. Boys and girls agreed that some foods served at school are different from those to which they are accustomed. Reasons differ why children do not like certain foods.

Some questions relating to specific foods of the Basic Seven groups arose. This teacher reported more discussion and interest in milk than in any other foods. One pupil wanted to know why the school lunch serves only unflavored milk instead of chocolate milk. The class investigated the differences between unflavored versus flavored milk. The food value of milk, coffee, tea and carbonated beverages was compared. They were much impressed by the food value of milk and the lack of it in the remainder of the group. There was considerable discussion about dried milk. The interest developed as a result of children observing the cook using it in the kitchen. The food value and advantages of different kinds were studied and an outline on the board summarized their findings.

The question, "Is butter or oleomargarine served in the lunchroom?" was asked by the teacher and resulted in worth-while learnings. One child was assigned the

responsibility of obtaining the answer to this question from the cook-manager. He reported that the school lunch could serve either, because nutritionally they are the same. However, at this time butter only is being served, because it is made available to schools by the federal government. Price support and the commodity program were not discussed beyond this point, because it was considered too advanced for fourth grade level by the teacher. The children enjoyed comparing food value and prices of oleomargarine and butter. They brought labels and prices to class for study.

One of the important learnings in a discussion of fruits and vegetables in relation to the Basic Seven resulted in the conclusion that vegetables and fruits may contain limited food value if improperly cared for prior to preparation and when carelessly cooked. A committee went to the kitchen to learn about fruit and vegetable preparation practices which save food value.

After discussion, this class recognized that both advantages and disadvantages existed in sending menus home. This class likes having the menus to take home and were aware that they are really intended to help the mother prevent duplicating in the evening meal the foods served at school and to keep her informed of what her children are learning to eat at school.

All activities of the Desirable Lunchroom Behavior group of the Cultural, Social and Spiritual Values section were used because the teacher stated, "This entire section is very good." All of the points listed in the section were reviewed and discussed. This teacher stated that most of the habits listed were not new to her pupils but they needed to be re-taught often. After children had studied the activities, each child selected an example of good or poor conduct. These they dramatized. Other children guessed what each child was doing and stated whether the practice was desirable or undesirable.

The children discussed the saying of grace in the lunchroom. The majority considered silent grace the best idea. They agreed that no child should be required to participate. As a result, most of the children say grace but a few prefer not to enter into the activity.

The two activities selected in the Arithmetic unit included change-making and other problems relating to meal ticket sales. Children practiced making change correctly and counting money after making change. Play money was used for the activity. Meal ticket problems were discussed verbally as a group and calculations were completed on the board. The amount saved per week, month and year as a result of purchasing meal tickets rather than single daily tickets was computed. The most

important learnings for this fourth grade class came from a better understanding of the placement of the decimal point and the reading of decimal points and dollar signs correctly.

Illustrative Materials Used by the 20 Teachers

A list of 53 items of illustrative materials was included in the resource unit. These items were selected from material received from a variety of sources by the writer. No information relating to the effectiveness or suitability for grade level was known. The number of copies of any item varied from one to five. Teachers asked for the material by telephone or selected it from items the writer carried with her on visits to schools. As teachers selected from the material, some items became depleted, thereby limiting teacher use of those items.

Forty-four items were included in the resource unit under the heading of Health; one each in Social, Cultural, Spiritual Values and Science; seven under Social Studies and none in either Arithmetic and Art.

Table A (Appendix B) shows the extent to which the illustrative materials were used. Numbers one to 53 in column (1) represents the assigned numbers given to items in the resource unit (Appendix A). The number of times a piece of illustrative material was used and the per cent

of the 20 teachers using it were recorded in columns (2) and (3), respectively. For purposes of recording data relating to activities used in the resource unit, a number from one to 20 was assigned to each teacher. These same assigned teacher numbers are listed in section (3) in the upper middle and right hand section of Table A. At the bottom of Table A is recorded the total number of times the illustrative items were used by all 20 teachers and the total number of items used by each teacher.

Four teachers or 20 per cent used none of the materials listed. The largest number of items used by a teacher was 13. Amounts used by the other 19 teachers included 11 items by one teacher, five by one teacher, four by two teachers, three by five teachers, two by four teachers and one item by two teachers. This represents a total of 62 items used by the 20 teachers. In addition, 22 items not listed in the resource unit were used and recommended by teachers.

The number of times the same illustrative material was used by different teachers varied from zero to five. Two of these items were used five times each, three items four times each, six items three times each, four items two times and one item was used 15 times. Twenty-three items representing 43.4 per cent of the 53 items of illustrative materials listed in the resource unit

were not used.

It would appear that these teachers did not use much of this illustrative material to supplement their teaching. They did give the investigator quite a list of illustrative material which they had found useful. This list is found in Appendix B.

Opinions of the 20 Teachers

The opinions of the 20 participating teachers concerning the suitability of the school lunch program as a means for enriching the elementary school program were sought through interviews between the teachers and the investigator. Discussion of the teachers' reactions follow.

Children's Learning Enriched. The 20 teachers participating in this study said they believed their pupils had profited from the learning experiences they had provided them. Some of their statements were:

> "The experience made theoretical knowledge practical."
>
> "Contributed more enrichment to subject matter areas than anything in the room."
>
> "They would never have gotten a portion otherwise of what they did. Children responded in a manner that surprised me."
>
> "Children learned many new things which were intensely interesting and valuable to them."

"A very valuable unit. I realize it more since completing the activities."

Teachers' Suggestions Relating to the Resource Unit.

The request of teachers for the return of the resource unit is indicative of their reaction to it. Fifteen of the 20 teachers inquired at the interview if the resource unit which they used or a replacement could be made available to them again in the fall. Requests for the resource units came at the beginning of the series of interviews. After a few requests, the writer concluded that these requests might be accepted as an indication of a degree of worth. As a result those teachers who did not inquire about the return of the resource unit were asked during interviews if they preferred to have it returned or retained by the writer. The writer learned that four of these teachers were not returning to teaching in the fall and one teacher was leaving for an overseas teaching assignment. Each of the five teachers stated that they would have desired further use of the resource unit if they had continued in their present teaching assignments.

All teachers' comments relating to the resource unit were very favorable. Some teachers indicated the reasons they liked some aspect of it, others contributed additional suggestions for further improvement of the

resource unit. Comments of teachers relating to it follow. Reasons 1 and 2 were listed by four teachers; reason 3 by four teachers, and all others by one each. Suggestion number 2 was contributed by three teachers. All other suggestions for improvement were contributed by one teacher each.

Reasons Resource Unit was Liked	Suggestions for Improvement
1. Activities are broad and complete.	1. A colored divider between each section is desirable. At present, it is difficult to determine where one section leaves off and another section begins.
2. The material is well organized. It is clear, easy to read and information in outline form is easy to use and helpful.	2. Divide into grade level.
3. Adjustment to grade level is accomplished easily.	3. Incorporate the material into the Guides to the Basic Program.
4. Indexing was helpful.	4. Develop the material into a School Lunch Guide similar to those provided for Art, Music and Physical Education.
5. Ideas indicated are sound.	
6. Suggestions for activities are interesting and worth-while.	5. Increase suggestions for field trips.
7. A statement of the philosophy makes for striving for the same goal by all teachers.	6. Reduce repeats of similar material.
8. Liked the material segregated by subject matter areas.	7. Include a general note to teachers explaining the use of the resource unit to enrich pupil experiences.

The majority of the 20 teachers were in favor of leaving the resource unit in very nearly the same form in which it was used for the study. For instance, seven indicated they would make no changes, one would add only a blank area for teacher use and two would use the information as it is but arrange it according to grade level. Of the seven, one teacher would use the resource unit as a supplement to the health book because it contains helpful suggestions and information with interesting sidelights. Another teacher in the same group suggested that the resource material should not be placed into the hands of teachers without an opportunity for the principal or supervisor to explain its use to teachers.

Additional suggestions were presented by teachers. Two teachers suggested that the information be added to the Guides to the Basic Program. Four teachers believed the material would be more effective if developed into a guide as for music, art and physical education. One teacher suggested dividing the material into two groups, primary and intermediate. She would arrange the information in units instead of subject matter areas. For instance, one unit might be menu planning. In this way a teacher could incorporate the information into any subject matter area where he would desire to use it.

Though this study was limited to grades four, five

and six, 19 teachers stated that the resource unit could be used from grades one through six. One lone teacher stated that it should be used with grade levels three through six. Seven of the 19 teachers indicating suitability for grades one through six made no further comment. The other 12 teachers indicated that teacher selection for grade level was important. A few teachers stated that the resource unit contained more material for intermediate levels than for primary level. One teacher reported that all the material could be used for grade six, and another commented that the material was especially suitable for grade five.

Teachers' Suggestions Relating to Illustrative Materials. The need for previewed films was expressed by 14 teachers. One teacher recommended that any film list include a simple description of the contents of the film. Four teachers expressed a desire for films relating to particular areas or specific content. Two of this group listed a need for films relating to manners. The other two teachers wanted films on the Basic Seven. One teacher suggested a film of the Basic Seven in which children describe ways in which the foods in the Basic Seven contribute to their health. The other teacher expressed a desire for two films. The latter suggested that one film should include an analysis of the nutritional

content of a school lunch meal. The other film he suggested should demonstrate and explain in simple language the preparation of foods to retain food value. These films he felt would be practical, informational and interesting to boys and girls of grades five and six. The Salem school district has a modern Audio Visual Aids Department. It is possible that films based upon the recommendations of these teachers can be developed for district-wide use.

One teacher suggested developing a series of slides demonstrating situations in which school lunch experiences are correlated with subject matter areas. These she suggested for teacher information and use only.

Suggestions for additional illustrative materials were submitted. These include:

1. Develop two packets of illustrative material, one for Social Studies and Social, Cultural, Spiritual Values and another for Health and Science. Make these available to teachers through the Audio Visual Aids Department. Add materials as they become available.

2. Develop a file of material for each school in all resource areas. All teachers in the building could draw upon this material. This suggestion was contributed by two teachers, one of which suggested that the principal display the available material in order to familiarize teachers with it.

3. Develop a collection of health materials for use in each school.

4. Develop material for all resource areas and make it available through the Audio Visual Aids Department.

5. Develop two sets of correlation materials. Make one set available for preview and one set for use by teachers through the Audio Visual Aids Department. Later make both sets available for teacher use.

6. The school lunch supervisor could notify teachers about illustrative materials which are available to her and which can be provided for teachers, or for which teachers can write.

Teachers' Suggestions Relating to Help from School Lunch Supervisor. Some teachers stated that they were as unaware of the assistance which the school lunch supervisor could give teachers as they had been uninformed about the educational aspects of the school lunch program. Those teachers who called upon the school lunch supervisor the most for illustrative materials, suggestions, and talks, were for the most part, teachers who had worked with her prior to this study. The answer was probably explained by one teacher who said, "I am better acquainted with you now. I would feel more free another year to ask for materials and help." Five other teachers made similar statements. These teachers were already planning to include talks or discussions by the school lunch supervisor another year.

Regarding the supervisors' assistance during the period of this study, two teachers expressed appreciation for the preparedness of school lunch personnel in

relation to the study. The teachers of the two classes with which the supervisor met during the study indicated the extent of their pupils' learnings and the understandings resulting from the experience. Other teachers commented and expressed appreciation for the work on the resource unit, information sent to them during the study and the illustrative material which was made available.

Most teachers suggested ways through which the school lunch supervisor could provide increased assistance to teachers in developing greater understanding and use of the school lunch as a resource. The suggestions made by teachers were grouped and discussed under five topics which follow:

1. <u>Create an awareness of the kind of service which the school lunch supervisor can provide for teachers</u>. One teacher suggested that an awareness of the services available through the school lunch supervisor might be created by mailing a form letter to all teachers. This letter should explain, briefly and to the point, the advantages of using the school lunch to enrich subject matter areas of the curriculum and of drawing more fully upon the educational learnings inherent in the noon hour itself. One other teacher

suggested that a note to teachers outlining ways in which the school lunch supervisor could be of assistance to them was another method of developing awareness of teachers.

Another technique suggested centered around the meeting of the school lunch supervisor with faculty members. Several teachers suggested that the school lunch supervisor should talk to school faculties. Information which they suggested might be presented at such meetings included presentation of an outline of the services which the school lunch supervisor could provide, a review of this study, a discussion of the use of the resource unit, and visits to the kitchen with faculty members to point out and discuss learning situations which exist.

2. Suggestions of services which the school lunch supervisor could provide for teachers and their classes. In addition to the talks and discussions by the school lunch supervisor which some teachers recommended, other suggestions were submitted. One teacher

suggested that the school lunch supervisor might take classes on field trips relating to such food services as milk, bread or fresh produce installations where the supervisor's interpretation might be beneficial. Another teacher suggested that the school lunch supervisor provide teachers with lists of illustrative material which are available through the school lunch office or which they could order for themselves. She stated that this information should include suggestions for the use of these illustrative materials in relation to aspects of the school lunch.

The use of snappy letters with eye-catching illustrations to attract the attention of teachers was recommended by another teacher. She suggested that these letters should include questions such as "Are your children aware that menus planned by classes can be served in your school?", and then proceed to outline how this can be accomplished. A similar suggestion came from another

teacher who suggested that notes to teachers should be based upon the information in the Guides to the Basic Program. It was her suggestion that the school lunch supervisor indicate ways in which school lunch information could enrich subject matter learnings listed in the Guides to the Basic Program. Several teachers suggested that the type of information sent to teachers during the study be continued. Information which was sent to teachers during the study related to foods made available by the government with which children in Salem were unfamiliar. It was the purpose of making this information available to provide opportunity for study of foods not produced in Oregon and to stimulate greater interest in the consumption of these food items. Other information included a comparison between the cost of these government foods at the price of shipping charges paid by the school district and if purchased through regular channels.

4. Make the information in the resource unit available to all teachers. Teachers indicated that the school lunch supervisor needs necessarily to share in the responsibility for developing school lunch materials and in making them available to all teachers. The suggestions for developing the material differed among the teachers and included the use of the resource unit as it was used for this study, developing the information into a school lunch guide and including the information in the Guides to the Basic Program.

5. Improve the resource unit. Suggestions submitted by teachers would result in developing the present resource unit to include more primary learning experiences and to expand the present intermediate information. The use of another group of teachers to further this study with the school lunch supervisor was suggested; however, some teachers stated that they hoped this study would continue another

year and that they would have the opportunity to work with it.

Teachers Suggestions Concerning Relationship with School Lunch Personnel. Because teachers selected different activities, not all teachers had contact with lunchroom personnel. All teachers who had opportunity to work with school lunch personnel reported the very finest cooperation from each of them. A check with school lunch personnel revealed the same fine cooperation from teachers. Reaction of lunchroom personnel seemed very much as expressed by one cook who said, "I actually enjoyed it." Problems in equipment use were anticipated. However, only one experience, involving a single teacher was reported, and it was only a very minor inconvenience. In this case, kitchen measuring equipment was not returned at the agreed time. This necessitated a trip to the classroom. One cook stressed the importance of careful planning and scheduling of kitchen visits to avoid bringing children to the kitchen at a time when such visits might interfere with completion of food preparation and other essential activities on schedule.

A few teachers' comments relating to the attitude and cooperation of lunchroom personnel included:

> "Very good. They were exceptionally cooperative and easy to go to for help."

"Excellent. Couldn't have been better. She did anything and everything she could to help us."

"Excellent. She was very cooperative and happy to have us come. The children were happy in the situation."

"Very, very good. They were agreeable and pleasant as well as interested and helpful. This offered an opportunity to get better acquainted with lunchroom personnel."

"Wonderfully cooperative."

"Excellent. Our manager is a very obliging person. She is very tolerant."

"Very fine cooperation. They couldn't have been nicer. They were excellent with children that came in."

"A plan for the use of the kitchen would need to be developed if all teachers in a building were interested in using it. A plan protecting the lunchroom operation is essential. This activity should be used carefully with definite purpose in mind. Bringing school lunch personnel in closer contact with teaching personnel might free cooks to make suggestions to the teachers."

Factors which increase learnings in the kitchen and which contribute to a desirable relationship were suggested by three teachers. One teacher suggested that the teacher's approach is important. An attitude of respect for the work of school lunch personnel needs to exist. Another teacher suggested that an awareness by cooks of experiences in the lunchroom which can contribute to classroom learnings is a wonderful asset. As an example she pointed out that during an observation of food

preparation the cook stopped to perform another necessary duty. Prior to returning to food preparation she washed her hands thoroughly, and carefully explained to the children the reason for taking this precaution. The directness of this learning experience increased its value tremendously. Still another teacher stressed the importance of careful planning with lunchroom personnel to obtain the greatest benefits from the visitation experience. These visits, she pointed out, must be planned to avoid waste of personnel time. Greater contributions can be made to the class if the cook-manager has time to clarify, demonstrate and discuss aspects of the equipment and the program.

Teachers' Reactions to College Preparation.

Seventeen teachers could recall no mention or experiences relating to the school lunch program prior to their actual teaching assignment. Three teachers could recall only limited experiences or discussion during teacher training courses. The two teachers with the most contact had limited experience in lunchroom supervision. One of these teachers remembered studying laws relating to the school lunch program in one class. The third teacher could recall learning that mothers encouraged school lunch legislation.

One teacher recommended a course for principals but not for teachers. The other 19 recommended the inclusion of information relating to school lunch in teacher training courses.

The teacher recommending a course for principals suggested that operational, nutritional and educational aspects of the program might be included. This teacher did not suggest training for teachers because they are usually not required to accept operational responsibilities and as a result some of the material might be "over the heads" of some teachers. An informed principal could direct the teacher's experiences and relationship to it.

Some teachers made no recommendations in regard to content or length of course, whereas others suggested both. For instance, one teacher suggested a survey course for all "marginal duties," including school lunch, school registers, parent-teacher relationships and so on. Another teacher suggested a one-term course to include purposes, operation, sanitation, food sources, nutrition and techniques of correlation with subject matter areas. Two teachers suggested including a section relating to school lunch in health studies. A similar suggestion from another teacher would include a two or three-hour course in either health or education instead of a section.

Several teachers stated that no previous suggestion

had ever been made to them of the possibility of using the school lunch to enrich subject matter areas and that the idea had never occurred to them. One teacher stated that the inclusion of information in his college course would have made him more free to draw upon the school lunch. Prior to his experience as a participating teacher he had viewed the school lunch solely as a business.

Evidence of the Use of the Resource Unit

Evidence of the use of the resource unit was demonstrated through informal chats with teachers, principals and cooks. Evidence of the work of children was present on the bulletin boards of halls, lunchrooms and classrooms, in the meals planned by the children and prepared in the lunchroom and in displays and written work in the classroom. Inquiries from cooks and discussions with them relating to aspects of the study provided evidence that kitchens were being visited. Further evidence came from remarks by other teachers who had learned about the study from participating teachers.

Contact with teachers frequently occurred in the lunchroom. At these informal chats some teachers stated their opinions of the resource unit, others discussed the activities under way and those planned. A few teachers invited the writer to the classroom to observe activities,

sweet potato plants, bulletin boards, graphs, reports or menus. In the lunchroom teachers called the writer's attention to the lunchroom bulletin boards, presentation of grace, manners of their boys and girls or flower arrangements on the lunchroom tables. The teachers' attitude was one of interest and cooperation. Regret was frequently expressed that lack of time prevented use of this resource to the extent desired. Teachers indicated that they were looking forward to another year when they could include the resource unit activities in their plans at the beginning of the year. Several teachers remarked that they hoped the study would continue another year.

The writer considered some statements by teachers significant. For instance, during the study one teacher remarked that if all the information in the resource unit were taught it would contribute a liberal education to children in his grade level. After the final interview with one teacher, he suddenly realized that he had an ideal situation for developing lunch-time activities for classroom eating and remarked enthusiastically, "Maybe I can do my thesis on this." One teacher stated that he recognized the value of many activities in the resource unit but a feeling of obligation to complete material in existing guides made deviation difficult even though he recognized that teachers could use a degree of judgment

in using guide materials. One teacher asked the writer to work with him the coming school year to develop a health unit for his fifth and sixth grade classes which might create the kind of interest which he feels children should have towards health studies. He remarked that he had not found health studies interesting to children.

Principals indicated an interest in the study in a number of ways. For instance, one principal was anxious that the writer include three instead of two teachers from his building in the study because he believed that all three would make a worth-while contribution to such a study. Another principal and former teacher discussed aspects of kitchen visitation with the writer and later took a committee of children to the kitchen for a teacher. He later made a full report of his reactions and experiences. Another principal took time to participate in discussions between teachers in her building and the writer. She later suggested that the writer send notes to teachers during the school year showing how the school lunch can be correlated to the material in Salem's Guide To The Basic Program. Additional interest was indicated by principals through their inquiries relating to the progress of the study and through their cooperation with teachers. Teachers were free to attempt activities which deviated from the usual school pattern. One such

activity included music at lunch time in schools where music had not been attempted previously.

Though menu planning by classes was neither encouraged or discouraged in those schools which were not cooperating in the study, teachers and cooks in some schools learned of the activity and were found using it. Though teachers generally spent considerable time during the study with menu planning activities, not all menus were made available to school lunch personnel for lunchroom use. Some teachers might have been reluctant to follow through completely at this time. For instance, one teacher remarked that he was "scared to death" to attempt menu planning for school lunch use but because another teacher in the building encouraged him, he attempted it and found the experience gratifying for both the children and himself.

Not only did teachers learn about the study from each other during the school day but one teacher reported that a social gathering of teachers resulted in an evening's discussion of the educational implications of the school lunch.

CHAPTER V

IMPLICATIONS

The purpose of this study was to determine the extent to which the curriculum in some of the grades four, five and six of the Salem schools could be enriched through relating classroom learning experiences to the nutritional, cultural or business aspects of the school lunch and through utilizing more fully the educational possibilities of the lunch period.

The city school lunch supervisor who was the investigator first sought the cooperation of Salem school system personnel. With the suggestions of 20 Salem elementary teachers and other suggestions from literature on the educational aspects of the school lunch she compiled a Resource Unit of Learning Experiences Utilizing the School Lunch Program. This unit was organized into a series of learning experiences related to Health; Social, Cultural and Spiritual Values; Science; Social Studies; Arithmetic; and Art, as well as selected illustrative material for each section.

These 20 teachers then taught their classes learning experiences selected from this unit. In an interview they appraised their efforts. From this cooperative research project have come the following

implications:

1. The school lunch program lends itself readily to correlation with some subject matter areas and to a lesser degree with others. Benefits most commonly attributed to the school lunch have included its nutritional, and social-cultural contribution. It appears logical therefore that the greatest degree of relationship should result in Health and Social, Cultural and Spiritual Values. Nineteen of the 20 teachers representing 95 per cent selected learning activities from the Health section, whereas 80 per cent of the teachers selected activities from Social, Cultural and Spiritual Values.

The activities in the Social, Cultural and Spiritual Values were rated high in appraisal of teachers. Just as subject matter areas contribute information unique to their areas, so the contribution of the school lunch to the social, cultural and spiritual values of children is probably unique to it. No class in the curriculum is designated as social, cultural and spiritual values as listed for this study. For the purpose of adjusting to present curriculum patterns it appears that the inclusion of this section in one of the established subject matter areas such as Social Studies is desirable. Had Social, Cultural and Spiritual Values been included in the Social Studies section for this study, the per cent of teachers

selecting learning activities from the latter would have increased from 45 per cent to 85 per cent.

Arithmetic followed Cultural, Social and Spiritual Values with 70 per cent of the teachers selecting activities from the section. Because school lunch performs business functions it appears logical that certain aspects of the operation lends itself to practical class studies in Arithmetic. However, teachers are given little opportunity to become familiar with the financial aspects of the school lunch program. This may be a limiting factor in recognizing even greater numbers of suitable activities for study and class use.

Though only 50 per cent of the 20 teachers used Science activities, those teachers selecting from the section rated the activities very high. Most of the activities in this section included kitchen visits and observation. Teachers in Salem's schools have never been encouraged to draw upon the school kitchen as a resource or to work with school lunch personnel. The degree to which this factor may have inhibited some teachers is not known.

Social Studies and Art were selected by fewer teachers than other sections representing 45 per cent and 40 per cent, respectively, of teacher selections. The number of activities listed for Social Studies were

somewhat less than those listed for other sections. Those activities listed for Art were considerably less. This might have limited the selections by teachers. However, the fact that fewer activities were suggested in the two sections probably indicates that Social Studies and Art as presented in this study can be utilized to a lesser degree.

2. Classroom experiences can be broadened by talks and discussions including persons related directly or indirectly to aspects of the school lunch. During the period of this study the following persons were included in classroom activities: A cook discussed menu planning, a custodian discussed proper care of garbage and other aspects of sanitation in the building and grounds, a county sanitarian spoke on aspects of food service inspections, a farmer discussed price support as it affects him, and the school lunch supervisor spoke to two classes on a variety of subjects as outlined by the children. Teachers' reports indicated that worth-while contributions resulted from the inclusion of these persons in their class activities.

3. Teachers and principals are cooperative. Principals were not only willing to have their teachers participate in the study but gave encouragement to both teachers and the writer. Three participants were

teaching-principals who contributed both the teachers' and principals' viewpoint. There was no evidence that any teacher was hampered or discouraged in her efforts to attempt any activity listed in the resource unit. All teachers who were invited to participate in the study consented willingly and contributed their ideas, opinions and work to it.

4. Teachers have a professional desire to share new ideas with other teachers. At the end of the study all cooperating teachers recommended that other teachers use the school lunch for learning experiences. In addition, teachers suggested a number of methods to create an awareness of school lunch potentialities and to motivate teachers in and outside of Salem to use the school lunch as a resource. Suggestions for stimulating interest among Salem's teachers included talks and discussions at faculty meetings led by cooperating teachers, principals or the school lunch supervisor. Some teachers suggested making the resource unit available to teachers as it is now, whereas others suggested developing the resource material into a guide and/or incorporating the information into the Guides to The Basic Program. Cooperating teachers recommended the use of notes from the school lunch supervisor to stimulate interest and to indicate to teachers how school lunch can be incorporated into

subject matter areas and into the noon hour activity.

Teachers were not asked for recommendations or suggestions which might extend beyond the limits of Salem's school program. Nevertheless, teachers made a number of suggestions relative to the county workshop which includes all teachers within the county. For the county workshop teachers suggested buzz sessions, a panel discussion, an exhibit of teaching materials, a demonstration lesson and lists of activities which lend themselves to correlation and which teachers can take with them.

5. Teachers and school lunch personnel work well together. The relationship between teachers and school lunch personnel was mutually satisfying. The opinions and feelings expressed to the writer were all positive and very favorable. Though no objective evidence can be quoted to substantiate the writer's opinion, it appeared that a feeling of increased status was apparent in some school kitchens.

6. Teachers want to improve their teaching and appreciate help. Teachers very willingly contributed their ideas for study and approached the use of the resource unit as a means for improving instruction to children. Teachers recognized that this study might introduce them to one more way through which the information they taught might be presented more effectively

and more interestingly to their boys and girls. Teachers used suggestions sent to them and the illustrative material made available to them. They did not seek out illustrative material very often. Appreciation for these materials was expressed during interviews.

7. Teachers recognize that information relating to the school lunch prior to their teaching experience might result in greater use of the school lunch as a resource. Nineteen teachers stated that teacher preparation should include information relating to school lunch. The other teacher believed that training for principals would be more desirable than for teachers because most teachers have no operational responsibilities and as a result some of the information might be "over the heads" of some teachers. The type of training recommended by the 19 teachers varied from a section in a health unit to a two or three-hour course.

8. Teachers are unaware of the assistance the school lunch supervisor might contribute to their classes. As teachers worked with the resource unit a greater awareness developed of ways through which the school lunch supervisor might contribute to classroom teaching. During the study two teachers called upon the supervisor for talks and discussions but by the end of the study five additional teachers indicated plans to include the

school lunch supervisor another year.

Opinions on the questionnaire relating to help from school lunch supervisor brought forth a series of suggestions for increased use of the school lunch supervisor. These included illustrative materials, talks to faculty meetings, tips and notes to teachers, taking classes on field trips where the supervisor's interpretation might be beneficial, and providing more teachers with the resource unit. In addition, ideas were suggested in other areas of the questionnaire for which the writer would necessarily need to accept responsibility. The preparation of a guide, for instance, might to a large degree become the responsibility of the school lunch supervisor. Unfortunately the school lunch supervisor's time is a factor which will limit the extent to which suggestions contributed by participating teachers can be applied. Increased class use of the school lunch supervisor's time could result in the eventual use of an elementary homemaking teacher on a roving basis as used in some schools, or an assistant school lunch supervisor.

9. Teachers are unaware of the degree to which the school lunch can contribute learnings. During initial contacts most teachers indicated that the idea of incorporating school lunch into classroom learning activities had not occurred to them. The writer was aware,

however, that teachers were fascinated with the suggestion of experimenting with a concept new to most of them. Even in these first interviews some teachers made suggestions. Later at the combined meeting of teachers ideas came freely and as one teacher said later "it was a very stimulating meeting."

The study developed an awareness of the degree to which school lunch can increase classroom and noon hour learnings. At the end of the study, all teachers stated that they believed the learnings of their boys and girls to have been enriched by drawing upon the school lunch as a resource. Participating teachers also recommended use of the resource unit as it is now or developed into materials used in other areas of Salem's curriculum program to be made available to other teachers and that they be encouraged to use it. Teachers also suggested additional methods of encouragement through notes to teachers, talks at faculty meetings and teacher training, indicating that recognition of the worth of it existed.

10. Teachers recognize that school lunch materials should be developed in keeping with established patterns for other areas of the curriculum. Though suggestions by teachers included making the resource unit available to all teachers in its present form, more teachers recommended that the material be made available as a guide or be

included in the Guides To The Basic Program. Some information is already included in An Outline of the Curriculum, Grades One to Six. Guides to subject matter areas, Guides To The Basic Program, and An Outline of the Curriculum are all established curriculum materials in present use in Salem schools. It was further suggested that the materials be made available through the assistant superintendent whose responsibility includes the supervision, direction and development of curriculum materials.

For the 20 Salem elementary teachers who cooperated in this study the resource unit which they helped to plan, then used and evaluated, seemed to serve very well as a stimulus to help them enrich the curriculum of their pupils by using the school lunch program in their school system. Most asked to have their copy of the resource unit returned to them so that they may use it another year. If this study served as a stimulus for improving instruction of 20 different classrooms of children through cooperative action of those concerned, then this action research project has only begun. Where it leads will depend upon the leadership of the city school lunch supervisor and her colleagues.

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APPENDIX A

COOPERATING TEACHERS

Twenty Salem teachers helped offer suggestions for class activities for this unit, taught these activities, then appraised the results and finally offered suggestions for improving the unit. Thanks is offered to the following teachers:

Participating Teacher	School
Janice Stein Wanda Tanner	Bush
Elizabeth Dugan Boyd D. Hillesland	Grant
Glen Mick	Halls Ferry
Patricia Lee Kenneth L. Mohney	Hayesville
Donald Bennett Genevieve Wegner	Hoover
Willow E. Evans Marguerite H. Gilles	Keizer
Joseph Formick Unamae Stoyka	McKinley
Evelyn Fox	Middlegrove
Margaret Pierce Lois Van Allen	Morningside
Margaret Shinn Wallace Turnidge	Pringle
Wilma Osborn Mary Peterson	Richmond

RESOURCE UNIT OF LEARNING EXPERIENCES UTILIZING THE SCHOOL LUNCH PROGRAM

This resource unit is a compilation of learning experiences related to the school lunch program which elementary teachers may find helpful in enriching the curriculum of grades four, five and six. It is divided into six sections listing unrelated class activities and some selected illustrative material. These sections are:

Health
Cultural, Social and Spiritual Values
Science
Social Studies
Arithmetic
Art

The purposes of the school lunch program in Salem, Oregon, schools are as follows:

1. To provide for children, nutritious food prepared under sanitary conditions, in amounts producing maximum growth, at low cost.
2. To teach children to enjoy a well balanced nutritious meal.
3. To provide opportunity for children to learn to eat a variety of wholesome foods.
4. To provide cultural and social experiences for children.
5. To provide experiences which add enrichment to subject matter areas of learning.

Each participating teacher can help to fulfill these purposes by either selecting learning experiences from many

areas of the resource unit or by teaching one or more sections.

I. Health

Teacher Comment

A. Menu Planning and Evaluation

(On the copies which teachers used this space was provided throughout the resource unit. It is shown on this page only for illustration.)

1. Study school lunch menus and food records.

a. Study school lunch menus for variety. Discuss reasons for including a variety of foods in school lunch menus. How do we learn to eat a variety of foods?

(1) No single food includes all the nutrients for proper growth. A variety might contribute more of the essential nutrients required by the body.

(2) A willingness to eat a variety of foods contributes to greater social poise. Embarrassment results for both the hostess and her guest when a guest has learned to eat only a limited number of foods.

(3) Children learn to eat foods by tasting them. It is essential that they taste food, even if only a very small amount. School cooks place a small portion of each food on each plate to provide an opportunity for seeing and tasting foods new to boys and girls.

b. Discuss which of the Basic Seven foods are included in each school lunch menu for a week. Boys and girls decide which foods need to be included in the two meals at home to meet all of the Basic Seven requirements for each day.

c. From the cook-manager, obtain a list of foods required by the National School Lunch Act to be included in each day's meals. Determine whether the Basic Seven requirements are met if these foods are included in school lunch menus in the amounts required by the federal government.

d. From the cook-manager, obtain copies of her food record. This is a record to determine whether the amounts of food served daily are adequate for the numbers served. Study these records to determine if in your school the requirements of the federal government are being met. Why are carbohydrates not listed on this record? Children need to realize that carbohydrates are energy foods and also are necessary.

(1) Carbohydrates are found in many foods. They are inexpensive as compared to other foods. They are generally well liked so that most people eat a sufficient amount of them.

(2) The school lunch record includes those foods most essential for growing bodies.

2. Have the class discuss the fact that nutritional content of food is not related to price. Compare the food value and price per pound of liver, ground beef and red snapper to steak. Have children list inexpensive foods available on the local market which are high in food value. Have children obtain ideas for the above list from their mothers and report back to class.

(1) In school lunch menus, foods high in nutritional value and low in cost are included in order to keep the cost of school lunches low.

(2) Prices vary with the season of the year and the supply. This is a factor to consider in menu planning.

3. Discuss the importance of planning a menu which is attractive in color and in general appearance. Discuss the statement, "We eat with our eyes."

4. Have a committee obtain from the cook a list of government commodities in present use. Bring a few containers of government foods and those purchased from regular channels to the classroom for the purpose of comparing and studying labels. How are the labels from these two sources the same? How do they differ? Can the school sell the government foods and use the money to purchase other foods? What information on the labels of canned foods might be useful to the cook?

5. Have the class plan school lunch menus for a week, following the guide recommended by the National School Lunch Act. In planning these menus, children should be helped to realize that the following factors need to be considered.

   a. Cost is an important factor. It is necessary to keep the cost of school lunch menus as low as possible. Certain government commodities are available to school lunch programs. Some foods are selected by the government on the basis of their specific contribution to the school lunch. Other nutritionally sound foods become available through the government price support program. These are foods the government removes from normal trade channels in order to bolster prices. Foods purchased by the government vary from year to year.

(1) Those purchased for their specific nutritional values frequently include such foods as tomato products, orange concentrate, canned grapefruit, dried beans, cheese, peanut butter. Sometimes other canned vegetables and fruits and meats are included.

(2) Foods made available because the need of the government to support prices often include dried milk, butter, honey, fresh fruit and vegetables, rice and some meat products.

b. Nutritional content and variety are essential for maximum growth and development of boys and girls.

c. Color and texture add to the appearance and interest of a meal.

6. Have a contest for the best menu or menus submitted in a class or in a school. Suitable menus might be used district-wide with credit given to the individual or class supplying the menu.

7. Invite an individual reared in a foreign country to discuss with the class foods typical of his country. Have the children plan a menu of this country. Work through the school lunch supervisor for recipes and arrangements to serve the menu in this school alone. In some cases children might make and wear costumes typical of the country for the occasion. Correlate this experience with the Social Studies unit.

8. Discuss reasons why teachers or other adults might gain weight on menus adequate for boys and girls.

(1) Children's food needs are much greater in proportion to size than those of adults.

(2) Adults are less active, therefore need fewer calories. Adults need fewer body building foods since they are not growing.

B. Sending the School Lunch Menus to the Home

1. Discuss advantages and disadvantages of sending menus home.

a. Advantages

(1) Mother can avoid duplicating in the evening meal food served at home.

(2) Mother might use the menus as a guide to plan balanced menus for the home.

(3) Mother might serve food listed on the menu with which her children are unfamiliar, thereby making them more willing to accept the food later when it is served at school.

b. Disadvantages

(1) Boys and girls who have not learned to eat a variety, might select to eat at school only on those days when they like what is being served. This defeats the purpose of learning to eat the foods served at school.

(2) Cost of paper and labor in preparing the menus is a factor worth considering.

(3) Discuss pupil responsibility for taking menus home instead of leaving them in desks or pockets. (Applied only to those schools distributing menus.)

C. Food Study

1. Bread

a. Have children look up the food value of bread and discuss. Borrow loaf of bread from the lunchroom. The National School Lunch Act states that bread served for school lunch must be whole wheat or enriched. Discuss why this practice is followed.

b. Have the class study the label. Does the bread served in your school meet the requirements of the National School Lunch Act?

c. Have children look at the sack of flour at home to see if it is enriched.

2. Milk

a. Discuss different forms of milk.

(1) Borrow fluid, dried and evaporated milk from the lunchroom. (No condensed milk is used in the lunchroom due to cost.) Discuss the advantages of each.

(2) Compare the food value and cost. Look for irradiation on canned milk and addition of Vitamin D for fluid milk. Difference is in method of adding but both are equally good and desirable.)

b. Compare food value of milk with tea, coffee, and carbonated beverages.

c. Discuss why school lunch uses large quantities of dried milk.

(1) It is less expensive for schools than any other form of milk. Schools are required to pay only distribution costs from the central state warehouse to the school.

(2) More milk can be added to food in dry form than if milk is in liquid form, thus adding large quantities of food value to many foods.

(3) Dried milk is simple to use, readily available, requires little storage space and no refrigeration.

d. Discuss the relationship of milk and bacterial growth.

(1) Bacteria need food, moisture and warmth for growth. The first two requirements are always present and the third may be, if milk is cared for improperly.

(2) Milk requires refrigeration to keep bacterial growth at a minimum.

e. Take a trip to a milk plant. Study sanitation, pasteurization, storing and delivering. Inquire of the cook how the milk is cared for after it is delivered to the school. Why is this type of care necessary?

f. Discuss why the school lunch serves unflavored milk instead of chocolate milk or chocolate drink.

(1) Boys and girls need to learn to enjoy the natural flavor of milk. If it is served regularly on school lunch, boys and girls learn to prefer it. Chocolate contains a small amount of stimulant similar to coffee and tea. A sweetened flavored drink dulls the appetite for other essential food.

(2) Chocolate drink is different from chocolate milk. Chocolate milk is plain whole milk with chocolate added, whereas chocolate drink has the butterfat removed. In other words, it is skim milk with chocolate added and therefore lacks the Vitamin A, necessary for growth of boys and girls.

3. Fats

a. Discuss why the National School Lunch Act states that either butter or oleomargarine can be used? Obtain labels of each.

(1) Butter is made from animal fat, oleomargarine from vegetable fats.

(2) The food value of butter and oleomargarine is considered the same. The amount of Vitamin A in butter varies with the feed of the animal producing the milk used for butter. Sometimes it is high and sometimes it is low. It would be impossible to test each batch of butter and label it with the exact Vitamin A content. It is for this reason that we do not find the amount on butter labels. The amount of Vitamin A is listed on oleomargarine labels because the amount added can always be the same. The amount added to oleomargarine is equal to the amount in butter when averaged over a period of time.

(3) Butter contains some natural color. The color is determined by the feed of the animal. Harmless vegetable coloring is added to butter when the color is below a set standard. It is always added to oleomargarine.

b. Have the children obtain prices of butter and oleomargarine and then compare costs.

4. Protein

a. Obtain sufficient food record sheets from the cook to supply the class. Which protein foods are counted toward school lunch requirements? Discuss why protein is so important for growing boys and girls.

b. Discuss the reason why Salem Schools purchase U.S. Inspected Meats. How can one tell that meats are U.S. Inspected? Is there an Oregon Inspection stamp?

(1) A purple seal of harmless vegetable dye stating "U.S. Inspected" is stamped on meat.

(2) Oregon does not have meat inspection and therefore has no stamp. At present a pilot program of meat inspection is under way.

5. Vegetables and Fruits

   a. Discuss the body's need for vitamins, minerals and roughage.

   b. Why does the federal government require that two servings of vegetables or fruits, or one serving of each be included in each meal?

      (1) Boys and girls require large amounts of vitamins and minerals to build strong bodies during growth.

      (2) Vegetables and fruits also add texture, variety, color and interest to a menu.

6. Dessert

   a. Discuss the reason why boys and girls should eat the dessert included in their meals at school.

      (1) Dessert is planned to include part of the day's food requirements. For instance, part of the fruit or protein (eggs, peanut butter) or both are included in the dessert. Frequently the dessert is planned to supply additional calories for energy needs of boys and girls.

   b. Discuss the reason why dessert is served at the end of the meal.

7. Discuss disadvantages of between-meal eating. List desirable and undesirable between-meal snacks.

D. <u>Care of Foods to Protect and Preserve Food Values</u>

1. Visit the cold room or refrigerator to observe storage of vegetables. Discuss the importance of keeping vegetables fresh and crisp.

   a. Loss of vitamins results when vegetables are allowed to wilt.

b. Wilted vegetables are unappetizing and lose their attractive color.

2. Appoint a committee to discuss precautions which the cooks in your school take to preserve the food value of the foods they prepare.

a. The cooks peel vegetables on the same day they are used and as close to the cooking or serving time as possible.

b. Fresh, smooth, clean carrots are not peeled.

c. The cooks use ice instead of water to crisp vegetables. Water removes some vitamins and minerals from foods.

d. The cooks steam potatoes instead of cooking them in water. Some schools do not have steamers and therefore potatoes are cooked in a small amount of water.

e. Vegetables are peeled thinly to save vitamins and minerals which are under the peeling.

E. Sanitation

1. Discuss the meaning of the Grade A sign in your kitchen.

a. The Grade A sign indicates that sanitary conditions and practices which meet specified health standards are observed.

b. Oregon law does not require grading of school kitchens. Salem kitchens are graded at the request of the School District.

2. Have a county sanitarian from the health department speak to the class. Arrange for a time of the day when food preparation and serving is not in progress. Have the class observe the sanitarian inspecting the kitchen. Have him explain the reason for food handlers' health examinations and health cards for school lunch employees.

3. Discuss why school lunch employees wear white uniforms and hairnets.

   a. White shows soil easily. The object is to detect the condition of garments rather than to conceal it.

   b. Hair is unsanitary because it cannot be washed as easily or as frequently as other parts of the body. Not all hair in food comes from persons preparing and serving food. Careless combing of hair without brushing clothes sometimes results in dropping hair.

4. Discuss why no school lunch employee carries a towel under the arm or over the shoulder.

   a. Hair and dandruff may collect on the shoulders of an employee.

   b. Perspiration is frequently present under arms of lunchroom personnel since their work is frequently near ranges or a dishwashing machine.

5. Discuss why employees with infections on their hands should not work in the kitchen.

   a. Germs from infected hands may enter food and cause food poisoning.

   b. Some foods, especially those containing eggs and milk or meat broth are ideal for bacterial growth.

6. Discuss why it is important that all persons working in a kitchen keep their hands thoroughly washed and clean.

   a. In food preparation, hands are a tool and like all good tools, it is essential to keep them clean to prevent food poisoning.

   b. Food is unappetizing when prepared or served by unclean or poorly groomed hands.

7. Have the class read and discuss "Guides for Children Employed in School Kitchens," used in Salem schools.

8. Discuss the diseases which might be spread through lunchroom. What precautions, not previously mentioned, are taken to prevent spread of diseases? Be sure the element of fear is not stressed since precautions are taken in the lunchroom to avoid such spread.

   a. Persons working on garbage should not be allowed to work in any other area until the hands are thoroughly washed.

   b. Persons cooking or serving food should not eat while working.

9. Have a committee interview the cook to determine:

   a. Why school lunch employees wash the tops of cans before opening them. Why do they wash can openers daily?

   b. Why are dishes pre-rinsed before being washed?

      (1) This reduces bacteria present.

      (2) Soaks and removes larger particles of food.

   c. Why dishes are air dried in the school kitchen.

      (1) Towel drying may spread bacteria from one dish to another in case one is not completely clean.

      (2) This procedure is recommended by the Oregon State Board of Health in their Sanitary Code for Eating and Drinking Establishments.

10. Have the cook demonstrate hand or mechanical dishwashing technique, whichever is used in your school kitchen.

a. Dishes are pre-rinsed before washing. Wash water on the mechanical dishwasher should be between 120°-140° or milk and egg (protein) foods will cook to the dish instead of being removed. Rinse water should be 170° or over to sterilize the dishes. Detergents used in mechanical dishwashers are non-sudsing.

b. Dishes in hand washing are first pre-rinsed then washed, rinsed and sterilized.

Illustrative Material

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2. A Glamorous Miss Picks A Lunch Like This (poster), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

3. A Guide to Good Eating (chart), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

4. An Inside Story of You and Your Food (pamphlet), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

5. Choose Your Lunch Wisely (poster), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

6. Eat A "Square" Lunch (chart), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

7. Food Models in Full Color, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

8. General Mills "Basic 7" Food Chart for Meal Planning, General Mills Incorporated, Minneapolis, Minnesota.

9. It's Always Breakfast Time Somewhere (pamphlet), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

10. It's Always Breakfast Time Somewhere with Food Models for Breakfast in Six Countries, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

11. Meals Charts - Breakfast, Lunch, Dinner (Stresses difference between good and poor choice of meals). Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

12. Meal Planning Guide, Pet Milk Company, St. Louis, Missouri.

13. National Food Guide (chart), U.S. Department of Agriculture, Washington, D.C.

14. Ready for Breakfast (poster), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

15. The Basic 7 Food Groups (chart), General Mills Incorporated, Minneapolis, Minnesota.

16. The Label Tells The Story (pamphlet), Grocery Manufacturers of America, Inc., 205 East 42nd Street, New York, 17, New York.

17. The Wheel of Good Eating (chart), American Institute of Baking, 400 East Ontario Street, Chicago 11, Ill.

18. Dairy - Three Dimensional Workit Kit (Pasteurization Plant), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

19. Food Value of a Serving of Ice Cream and of Milk (chart), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

20. Ice Cream - Let's Find Out About It (pamphlet), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

21. Instant Nonfat Dry Milk Solids (folder), American Dry Milk Institute, Inc., 221 N. LaSalle Street, Chicago 1, Illinois.

22. Milk - Let's Find Out About It, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

23. Milk Made the Difference (poster), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

24. Milk Packs a Punch with Every Lunch (poster), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

25. One Pound of Cheese, Natural or Process, Contains the Equivalent (chart), Kraft Foods Company, 500 Peshtigo Ct., Chicago 90, Illinois.

26. Pictures on Milk from time of Grazing through Delivering to the Home, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

27. Taking Milk Apart - A series of Food Experiments, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

28. The Story of Evaporated Milk (pamphlet), Evaporated Milk Association, 307 North Michigan Avenue, Chicago 1, Illinois.

29. Uncle Jim's Dairy Farm, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

30. Daily Food Record and The Eating Habit Survey Evaluation Sheet, Oregon State Board of Health, 1400 Southwest Fifth, Portland 1, Oregon.

31. Did you Get Your Vitamin C Today? Oregon State Board of Health, 1400 Southwest Fifth, Portland 1, Oregon.

32. Eggs, Oregon State Board of Health, 1400 Southwest Fifth, Portland 1, Oregon.

33. Food and Care for Dental Health (pamphlet), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

34. Food Comparison cards, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

35. Foods Furnishing the Same Amount of Calcium as One Quart of Milk, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

36. Food Value Charts, National Live Stock and Meat Board, 407 South Dearborn Street, Chicago 5, Ill.

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39. School Lunch (pupil chart), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

40. The Nutrition Ladder, Florida Citrus Commission, Florida Department of Education, Lakeland, Florida.

41. Ventures, Voyages, Vitamins, Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

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43. Why Teach Nutrition To Children? (Teacher information), Oregon State Board of Health, 1400 Southwest Fifth, Portland 1, Oregon.

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II. Cultural, Social and Spiritual Values

A. Desirable Lunchroom Behavior

1. Discuss and develop patterns for lunchroom behavior. Apply these directly to the school lunchroom but relate them to desirable practices in the home or when eating out as individuals or groups.

    a. Have the class practice desirable lunch line behavior.

(1) Pupils should be courteous to other pupils by avoiding pushing, crowding or loud talking. They should be equally courteous to school lunch employees.

(2) Pupils should take only their fair share. Example: one straw only.

b. Discuss what is wrong with statements such as, "I don't want any of that stuff," when being served.

(1) Lunch time should always be pleasant. Using unpleasant language detracts from the enjoyment of the meal. Such language sometimes makes lunch time less enjoyable for other boys and girls. Stress the importance of more courteous terms, such as, "No, thank you," or "Yes, please."

(2) It is unkind to make ungracious remarks about food to persons who have prepared it.

(3) Different people have different tastes. One should learn to respect the rights of others.

c. Discuss the effect of expressing a dislike for a food while in line or at the table.

(1) Other boys and girls might be influenced by what we say. This might result in their rejecting food which they have liked. This is unfair to other boys and girls.

(2) Lack of enjoyment of a food does not mean that it is not a good food or that it is poorly prepared. Sometimes we have not tried to learn to eat it. It is our responsibility to taste food

when it is served so that we learn to eat a variety and have fewer dislikes.

d. Encourage each child to keep a progress chart of foods he has learned to eat at school or home.

e. Have the class practice good table manners.

(1) Chew quietly with mouth closed.

(2) Dip soup away from self.

"Like little boats set out to sea--
I dip my spoon away from me."

(3) Breaking of bread or sandwiches into smaller portions before eating.

(4) Avoid bolting of food. Chew food well.

(5) Avoid talking with mouth full.

(6) Keep arms close to sides and do not lean on table.

(7) Learn the correct use of silverware in eating and proper position of silverware when meal is finished.

(8) Sit straight but in a comfortable position.

f. Have the class select and practice good table conversation.

(1) Use pleasant conversation and suitable topics of conversation.

(2) Allow others to talk. Avoid monopolizing conversation.

(3) Keep voices low.

(4) Talk only with persons seated next to one or seated directly across the table.

g. Have the class practice leaving the table and lunchroom.

(1) None leave until all at the table are finished and the teacher or a hostess dismisses the group.

(2) Each boy or girl should wait quietly in line and accept his responsibility for disposing of dishes and food in keeping with the school pattern.

2. Have the class plan and present an assembly program based upon desirable lunchroom practices studied under A. 1.

B. Spiritual Values Associated with the Noon Lunch. (What is done here depends on the policies of the school.)

1. Discuss different methods by which gratitude for food might be expressed. Allow children to decide if they wish to say grace and which method or methods they desire to use.

a. Methods might include:

(1) Silent grace.

(2) Prayer or song by the entire group. A blessing set to chimes is used in some Salem schools.

(3) Prayer or a prayer through song by one or more of the group.

2. Provide opportunity for children to write their own grace or blessings.

a. No child should be forced to participate in this activity or the saying of grace, if he does not wish to enter into the activity.

b. Make a child feel at ease who prefers not to participate.

3. Discuss methods by which children can be quieted where classes continue to be served. Have the class decide upon a suitable method for quieting their class.

a. After each class is served, a teacher or a hostess might sound a chord or a chime to quiet other pupils in the lunchroom. Groups served previously should be taught to respect this signal while grace is being said by groups arriving later.

b. The raising of hands by a class about to begin grace can be a signal for quieting others in the lunchroom.

C. Entertaining Lunch Guests

1. Write invitations to guests for lunch at school.

2. Discuss similarities between entertaining guests at home and school.

3. Develop ways for making guests feel welcome during their visit at school and during the lunch hour. Assign responsibilities which relieve the teacher when guests are present.

4. Make place cards for a special occasion such as a holiday meal.

D. Noon Time Activities

1. Have the children plan and present simple entertainment suitable for meal service. Skits, stories, riddles, music or songs might be suitable activities. A master of ceremonies under the guidance of a

teacher might be in charge of such a noon program.

a. Entertainment during meals is an accepted part of the American tradition and practice wherever adults enjoy meals together. Children, too, enjoy such noon-hour activity.

b. Entertainment should relax rather than stimulate the group.

2. Divide the class into committees. Have each committee plan and be responsible for music for a lunch hour.

a. Good music has long been associated with meals, especially where groups of people dine.

b. It is important that the lunchroom be quiet to the extent that children do not feel a need for talking above the music.

c. Music should be well selected and appropriate. Music usually considered appropriate includes:

(1) Soft, melodious music that lends a quiet, cheerful atmosphere.

(2) String ensembles, small concert orchestras and vocal quartets.

d. Avoid stimulating or loud music.

E. Host and Hostess Activities
(This depends upon facilities of the school)

1. In the classroom, arrange desks or tables in small groups. Decide on a host or hostess for each group. Discuss and make a list of responsibilities for the host or hostess. These should be in keeping with duties generally accepted by each in the home.

a. Hostess duties might include:

(1) Gives the signal for all being seated.

(2) Begins eating first and properly should finish last.

(3) Encourages and guides suitable and interesting conversation.

(4) Includes all pupils at the table in conversation.

(5) Seats guests at the table. Man honored guest is seated to the right of hostess; the lady guest is seated to the right of the host.

(6) Dismisses her table.

b. Host duties might include:

(1) Leads the saying of grace or assigns the responsibility to another child.

2. Host and hostess duties similar to those suitable for a classroom situation might be developed by the class for lunchroom use.

Illustrative Material

45. Table Manners (charts), Grant School, Salem, Oregon.

III. Science

A. School Kitchen Equipment and Supplies suitable for the study of Science.

1. Discuss the following and visit the kitchen to observe:

a. Simple machines

(1) Inclined planes - draining area in the dishwashing section.

(2) Pulleys - dishwashing machine to raise and lower doors.

(3) Levers - door handles, knives, long and short handles on pans, beaters, institutional can opener.

(4) Wheel and axle - centrifugal pump in dishwashing machine, can opener.

b. Motors

(1) For cooling - refrigerator and cold room, freezer.

(2) For moving objects - mixer, grinder, knife sharpener, fan, mechanical peeler, dishwashing machine.

c. Gears

(1) In rotary beater, ice cream dishes mechanical mixer.

d. Forces of energy

(1) Water power

(2) Natural gas
(Importance of air when using gas)

(3) Electricity

(4) Light

(5) Magnetism (Magnetic knife holder in a few schools).

e. Friction

(1) Cleaning abrasives

(2) Brushes

(3) Matches

f. Substances

(1) Elements - iron, copper, aluminum

(a) Most kettles and bake pans in schools are of aluminum because distribution of heat is more even than with stainless steel.

(b) Most serving equipment or table tops are made of stainless steel. Stainless steel is more easily cleaned.

(2) Compounds - salt, sugars

(3) Mixtures - baking mixes

g. Soaps, chemical detergents, bleaches

(1) Dishwashing machines require a sudless detergent. Heavy agitation prevents use of suds type detergents.

(2) Soaps or sudsing chemical detergents are used for hand washing.

(3) Bleaches are used for retaining whiteness of dishclothes and dishtowels and to sterilize them.

h. Scales - balance type

(1) The use of scales is more accurate than measuring and is less time-consuming.

(2) School food personnel are encouraged to use scales. Baking results are more consistent.

i. Thermometers - dishwashing machine, cold room.

j. Insulation

(1) In freezer, refrigerator.

(2) In building - ceiling of kitchen.

k. Drainage - overflow for safety.

l. Fire Extinguisher

(1) Discuss principal kinds of fire extinguishers as carbon-dioxide, carbon tetrachloride, foam and soda-acid.

(2) Discuss location in relation to hazardous areas.

2. After a visit to the lunchroom for observation of equipment and supplies, have children list examples of each group which they find in their home or other parts of the school.

B. Food Processing

1. Have a committee obtain a sample of dried fruit, dried milk, orange concentrate or tomato paste, and any canned food from the cook. Borrow from the kitchen or bring from home a sample of the fresh form of each of the above. Note the differences.

2. Look up the differences in food value between some processed and fresh products. Discuss advantages of drying, canning, concentrating and evaporating foods.

a. Methods of processing food are constantly being improved to retain more of original food value. One example is the government rice. This is known as "parboiled" rice. It is processed before milling to retain more "B" vitamins and iron. The treatment consists of soaking, steaming and drying. It does not shorten the cooking process but gives it a distinctive flavor. It is creamy tan in color before cooking but white,

tender and fluffy after cooking. Borrow a sample of raw rice from the kitchen. Observe and compare it with cooked product in the lunchroom.

b. Transportation charges are reduced and less storage facilities are required when water is removed from foods. In the case of drying, keeping qualities are improved since yeast, mold and bacteria require moisture for growth.

C. Changes in Food

1. Discuss changes in food resulting from cooking of food. Obtain from the cook a sample of the main dish of the day before it is cooked. Draw from the class the reasons why she might cook the food. These may include:

a. To make it more palatable and digestible.

b. To make it more appetizing, attractive and to blend the flavor of foods.

2. Discuss chemical changes in food, such as the addition of baking powder to cake to produce a light product.

3. Discuss changes in food due to action of bacteria. Observe spoilage of potatoes, oranges or apples as it is spread from one to another.

D. Effect of Food on Growth and Development

1. Have the class carry through a rat, chicken or guinea pig experiment using the school lunch diet for one and an inadequate diet for another.

2. Have children chart their weights on a graph.

E. Yeast, Mold and Bacteria

1. Look up yeast in a dictionary and encyclopedia to determine the type of growth and function in bread preparation. Arrange with the cook to observe mixing of yeast bread. Later observe the raised product. Observe same bread at lunch for holes caused by gas as a result of yeast action.

2. Discuss media and condition under which mold growth occurs. Borrow a sample of tomatoes from the kitchen and allow it to remain in a warm place. Ask the cook to store another sample from the same can in the refrigerator. Compare them after mold growth appears on the sample exposed to the warm temperature.

3. Discuss the importance of sanitary procedures in the lunchroom in relation to bacteria. Make cultures of a hair, fingers of a person working on garbage before and after washing and a cook's thumb.

Illustrative Material

46. Watch Them Grow, Directions for Conducting an Animal Feeding Demonstration (pamphlet), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

IV. Social Studies

A. Where Foods Are Produced and Processed

1. Visit the kitchen storeroom. From the label, list the foods and where they are grown or processed. Later pinpoint these on a map. Is food necessarily grown where it is processed?

a. Meat is an example of food produced in one area that may be processed in an entirely different area. Flour is usually processed some distance from where the wheat is grown.

b. Fresh vegetables and fruits are usually processed within the area where they

are grown because they are perishable.

2. Visit the cold room if the school has one. Observe the kinds of food in the cold room. Later pinpoint these on a map as in 1.

   a. In small schools no label will appear on such items as carrots or cabbage since the wholesale house will have removed them from the original container to divide them into smaller amounts.

   b. Some foods such as apples are purchased locally and are unlabeled.

3. Arrange for a visit to a wholesale produce plant such as Pacific Fruit and Produce in Salem. This experience would provide excellent information relating to storage, care and the source of fresh produce. Pinpoint the sources after this visit.

B. Factors Affecting Food Costs

1. Arrange for a groceryman to talk to the class on the following:

   a. Cash and carry.

   b. Wholesale and retail.

   c. Effect of supply and demand upon food prices.

      (1) The school lunch office can supply prices based upon differences from one year to another resulting from differences in supply.

      (2) Meats are an excellent example of supply and demand. Steaks, for example, are always higher than other cuts because there are fewer of these tender cuts. Much of the remainder of the animal is composed of less tender cuts.

2. Have a representative from the class ask the cook whether she uses beet or cane sugar. Why? Have children check the difference in price of beet and cane sugar at the store.

   a. Beet sugar is used in most of Salem schools because the price is usually less than that of cane sugar. Beet sugar is produced in eastern Oregon, making shipping charges less in Salem.

   b. Chemically there is no difference between beet and cane sugar. This makes cost the only consideration in the kind purchased.

3. Discuss price support for agricultural products; effect upon price to the farmer and consumer. Government commodities as seen in the visit to the storeroom are sent to schools for the price of shipping charges. This results in serving meals to children at a considerably lower price than if schools had to purchase these foods at the wholesale level.

4. Discuss the advantages of quantity district-wide purchase of food for school lunchrooms as compared to small purchases by individual homes. Have children obtain prices for home size cans. Compare these prices with those of large cans purchased by the school district. Discuss the reasons for these differences.

   a. Economies result from less packaging and less labor cost at the point of processing and packaging. At the time of sale, less sales time and less labor are required in proportion to the amount of the food sold.

   b. District-wide purchase makes better buying possible. Business concerns are willing to submit cans for cutting to check quality and quantity of contents, whereas they could not make these available to each school.

C. Food Waste

1. Weigh the amount of food waste daily for one to two weeks. Estimate the type of food wasted and calculate the value in terms of money. What could have been purchased with the money?

2. Discuss possible reasons for food waste.

   a. Servings too large.

   b. Lack of eating time.

   c. Too much noise.

   d. Lack of encouragement to taste the food.

   e. Have not learned to eat the food served.

   f. Food poorly prepared.

D. Effect of Food Upon History and Economy of the Nation

1. Discuss the relation of food to the history of our country, including the discovery of America.

2. Discuss the possible effect upon the economy of the nation as a result of serving over 11,000,000 school meals a day throughout the nation. Discuss the effect of employment in schools as well as in food production, processing, packaging and shipping as a result of this service to boys and girls.

E. Classroom Study of Government Commodities Used in the Lunchroom

1. Discuss the source, food value and other educational information regarding foods with which children might be unfamiliar.

a. Children in the Salem area are not always familiar with government foods received because some are produced in other sections of the country. Children are reluctant to taste these foods at first. With related study, children might accept such foods more readily.

b. Many foods which are unaccepted at the beginning become well accepted as children become more familiar with them.

2. Obtain samples of unfamiliar foods from the cook to make observation and study of the food more effective.

F. Study Foods and Customs of Other Countries

1. Plan a menu which includes typical foods of a country being studied. Check with school lunch supervisor for nutritional content, availability of foods, and cost in relation to school lunch finances. Arrange through the school lunch supervisor to serve this menu in your school.

2. Have the children plan costumes and decorations which are in keeping with the country being studied.

Illustrative Material

47. Colombia, Land of Mountain Coffee (pamphlet), National Federation of Coffee Growers of Columbia, 120 Wall Street, New York 5, N.Y.

48. Food In Fiction (pamphlet), The Borden Company, 285 Madison Avenue, New York 17, N.Y.

49. Hello from Alaska (pamphlet), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

50. Hello South America (pamphlet), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

51. Hello U.S.A. (pamphlet), Oregon Dairy Council, 425 New Fliedner Building, Portland 5, Oregon.

52. Hershey's Educational Chart, Hershey Chocolate

Corporation, Hershey, Pa.

53. The Story of Chocolate and Cocoa, Hershey Chocolate Corporation, Hershey, Pa.

V. Arithmetic

A. Food Cost Problems

1. Figure the cost of the amount of milk used in your school per day, per month and per school year. Figure the cost of straws for each period. Make children aware that other costs, sometimes referred to as "hidden" costs, are also a part of the cost of supplying milk to them.

a. Costs which are difficult to determine include labor of school lunch personnel, refrigeration, sale of tickets, teacher supervision.

b. Obtain cost information and data relating to the amount of milk served in your school from your school office. Call the school lunch supervisor if the information cannot be obtained at the school.

2. Figure the food cost of a menu in the following ways:

a. As if foods were purchased at retail cost at a local store as their mothers purchase their food.

b. At the actual cost to the school (from the food inventory kept by the cooks).

c. At the cost, if the government commodities are figured at the wholesale price instead of on the basis of shipping charges.

3. Discuss costs of school lunch which are included in the meal cost but are too involved for a class to use. The class should be aware that many other costs need to be paid for and are included in the calculations made by the bookkeeper. These are:

   a. Labor.

   b. Electricity.

   c. Replacement of equipment and supplies.

   d. Napkins and straws.

   e. Cleaning supplies.

   f. Garbage disposal.

   g. Zero storage for perishable foods.

   h. Printing of meal tickets.

4. Compare the cost and food value of a bottle of milk and a bottle of carbonated beverage.

5. From information made available by the school lunch supervisor, figure the cost of the shipping charges for government commodities paid by the Salem school lunch program in the past year. What would these have cost if they had been purchased from a wholesale house? How much have these commodities reduced the cost of each meal?

6. Figure the savings resulting from the quantity purchase of 100 cases of each of the following foods over single case and 10 case lot purchases.

	1 cs.	10 cs.	100 cs.
Corn	$4.90	$4.70	$4.35
Green Beans	4.10	3.90	3.60
Peaches	6.25	5.95	5.65
Applesauce	5.40	5.25	4.90

B. Meal Ticket Problems

1. Figure the amount saved per week, month and year by purchasing meal tickets rather than single daily tickets.

   a. Single tickets cost $.25 per meal.

   b. Meal tickets cost $2.25 per 10 meals.

2. Figure the per cent of meals purchased through meal tickets and the per cent purchased by daily tickets for a day, week and month (obtain this information from the school office).

C. Change Making

1. Practice making change correctly using play money.

2. Practice counting the money after change has been made.

D. Calories

1. Figure the calories of foods which the children especially like. Obtain the recipes from the cook.

2. Figure the calories in a meal at school. How many calories were served per person? (Obtain list of food and amounts from cook.)

E. Graphs

1. Make a graph showing the per cent of the daily attendance participating in lunch at school.

2. Make a graph showing the per cent of individual tickets and "ten meal tickets" sold for a day and for a week.

3. Make a graph showing the amount of food waste for a week.

F. Recipe Problems

1. Enlarge recipes by both weights and measures (obtain recipes from cook).

2. Reduce favorite school lunch recipes to six servings.

G. Weights and Measures

1. Borrow a scale from the kitchen for the study of weights. Weigh dry ingredients such as beans and rice. Measure these. Discuss the statement that "A pint is a pound the world around."

   a. Food measures vary considerably. There is even a difference in long grain and short grain rice. This accounts for the fact that weights are more accurate than measurement in the preparation of food.

   b. In food preparation, the use of scales results in a more uniform product each time.

2. Borrow and compare the following measuring equipment:

   a. One gallon, one quart, nested measuring cups of one cup, 1/4, 1/3, 1/2.

   b. One set measuring spoons.

3. Use a conversion table to change a recipe from measures to weights.

H. Cost of Broken Dishes and Lost Silverware

1. Have a committee obtain a list of broken dishes for the year. Figure the cost of these. Point out that the money spent for unnecessary items reduces the quality of food that can be purchased. (Obtain the price of dishes from school lunch office).

2. Have a committee find out from the cook the amount of silverware lost during the year. Figure the cost of it. (Obtain price from school lunch office).

VI. ART

A. Contribution of Art to a Pleasing Lunchtime Environment

1. Have the children make centerpieces for lunchroom tables and window sills. Where in-wall tables are used, children can take centerpieces to and from the lunchroom.

   Some schools have a storage area adjacent to the lunchroom where centerpieces can be stored.

   Centerpieces might include:

   (1) Arrangements of flowers, greens or suitable weeds.

   (2) Cornucopias made with sawdust or paper mache filled with fruits or flowers.

   (3) Arrangements with kitchen equipment, such as angels from funnels.

   (4) Ceramic vases and ceramic figurines.

   (5) Stick puppets of vegetables or other foods.

2. Have the children make murals in the recesses of the in-wall tables.

3. Where children eat in the classroom, have the children make mats for their desks. These might be made as a result of:

   a. Paper weaving.

   b. Cut paper design.

   c. Paintings covered with X-ray film.

   d. X-ray film decorated with Dec-Kal paint.

4. Have children make place cards for a holiday meal. The following are some suggestions:

   a. Decorate as in 3.

   b. Paper sculpture.

   c. Three dimension in baskets or boxes.

   d. Stencil place mats.

5. For holidays, have children decorate the stage with large evergreen arrangements or display a scene on the stage.

6. For holidays, have children make door swags for the lunchroom door.

B. Interpreting Educational Aspects of the School Lunch Through Art

1. Make mobiles on manners, nutrition or another phase of lunchroom activity. Hang these from the lights or ceiling.

2. Make fist puppets and use them in a play on courtesy and table manners.

3. Make posters relating to food habits or conduct in the lunchroom. Place these on lunchroom walls or in in-wall recesses.

4. Arrange bulletin boards in or near the lunchroom interpreting any aspect of the school lunch.

RESOURCE UNIT EVALUATION

Name _____ School _____

Grade _____ Date _____

1. Was your boys' and girls' learning enriched by drawing upon the resource unit?

2. What suggestions do you have concerning:

   a. Resource units

   b. Illustrative materials

   c. Help from school lunch supervisor

   d. Relationships with school lunch personnel

   e. Teacher training preparation

   f. Others

3. Do you believe that other teachers should use the school lunch program for learning experiences?

   a. At what grade levels?

   b. If so, by what methods can teachers be encouraged to use the materials?

   c. How should materials be prepared to be most effective for teacher use?

4. Any other suggestions?

APPENDIX B

TABLE A

Use of Illustrative Material

Assigned Numbers*	Times Used: No.	%	Teachers 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	2	10.0							X								X					
2	1	5.0										X										
3	4	20.0						X									X	X		X		
4	0	0.0																				
5	1	5.0														X						
6	2	10.0										X						X				
7	4	20.0							X								X			X	X	
8	4	20.0										X					X	X	X			
9	1	5.0																			X	
10	0	0.0																				
11	1	5.0						X														
12	2	10.0															X	X				
13	0	0.0																				
14	0	0.0																				
15	4	20.0				X				X								X	X			
16	3	15.0			X												X	X				
17	3	15.0	X					X									X					
18	3	15.0				X												X	X			
19	1	5.0								X												
20	1	5.0																	X			
21	0	0.0																				
22	3	15.0				X				X							X					
23	1	5.0																X				
24	1	5.0																X				
25	0	0.0																				

TABLE A - Continued

Assigned Numbers*	Times Used: No.	%	Teachers 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
26	1	5.0																	X			
27	0	0.0																				
28	0	0.0																				
29	0	0.0																				
30	0	0.0																				
31	0	0.0																				
32	0	0.0																				
33	1	5.0															X					
34	0	0.0																				
35	0	0.0																				
36	1	9.5													X							
37	0	0.0																				
38	1	5.0					X															
39	5	25.0									X				X		X	X		X		
40	0	0.0																				
41	0	0.0																				
42	1	5.0				X																
43	3	15.0			X	X											X					
44	1	5.0																X				
45	1	5.0									X											
46	0	0.0																				
47	2	10.0								X							X					

TABLE A - Continued

Assigned Numbers*	Times Used: No	%	Teachers 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
48	0	0.0																				
49	0	0.0																				
50	0	0.0																				
51	0	0.0																				
52	0	0.0																				
53	3	15.0					X				X						X					
Total	62		0	1	3	4	2	3	2	4	3	3	0	0	2	1	13	11	5	3	2	0

* Refers to number of item in resource unit under Illustrative Material.

SOURCES OF ADDITIONAL ILLUSTRATIVE MATERIAL
SUGGESTED BY PARTICIPATING TEACHERS

American Institute of Baking, 400 East Ontario Street Chicago 6, Illinois	1. Bread - A Visit to a Modern Bakery
	2. What Did You Eat Today?
Bristol-Myers Products Division, Bristol-Myers Co., New York 20, N.Y.	3. How I Brush My Teeth
General Mills Inc. Minneapolis 15, Minn.	4. Mother Hubbard's Cupboard
Home Economics Department Continental Baking Co. 630 - 5th Ave. New York City 20, N.Y.	5. A B C D Food Chart For Me - Including chart of Structural Composition of a Grain of Wheat
	6. Bread - To Help Build Strong Bodies
	7. Enriched White Bread
Kellogg Co. Battle Creek, Michigan	8. Day To Day Good Health Record
Marion County T.B. Assoc. 1345 State Street Salem, Oregon	9. Health Materials, Miscellaneous
Millers National Federation 309 W. Jackson Blvd. Chicago 6, Illinois	10. We Work Together
National Dairy Council Chicago 6, Illinois	11. Dairy Foods For Everyone
	12. Feeding Little Folks
	13. Ice Cream, A Product of Town and Country
	14. Ice Cream For A Nation
	15. Milk For A Nation

National Live Stock and Meat Board
407 South Dearborn St.
Chicago 5, Illinois

16. The Foods You Need Every Day (Charts)

17. You and Your Engine

Oregon State Board of Health
1400 S. W. 5th
Portland 1, Oregon

18. Elementary School Nutrition Teaching Kit

Wheat Flour Institute
309 W. Jackson Blvd.
Chicago 6, Illinois

19. Dick's Plan and How It Grew

20. Design For Living

21. Eat To Live

22. Current Food Prices In Our Town

APPENDIX C

EXAMPLES OF CHILDREN'S WORK

Teachers were not requested to keep children's work. However, some teachers had such evidence and presented these to the writer at the time of the final interview. The majority of these consisted of graphs, menus, bulletin board displays, arithmetic problems, posters, and records of foods eaten and health habits which were practiced.

To illustrate the kinds of pupils' work which resulted from the use of the learning experiences suggested in the resource unit some examples of children's work are included here. Garbage and Refuse was a contribution by a boy to the report entitled The Foods We Eat. The latter is presented unedited. The menus and drawings are the work of the two girls who wrote The Foods We Eat. This material is a summary of an activity completed by a sixth grade class under the supervision of Teacher Number One. My Health Is My Wealth is a copy of a tape recording made of a radio play developed and presented by the fifth and sixth grade pupils of Teacher Number Eight.

GARBAGE AND REFUSE

(Written by a boy in class of Teacher Number One)

Everyday each housewife has for disposal several pounds of waste from her kitchen and dinning room. She also has a considerable amount of waste paper, rags, twine, cans and bottles. Where coal or wood is used for fuel, at least one good-sized ash can must be emptied weekly. All these waste materials must be disposed of in some way.

In the country the kitchen and table wastes are fed to hogs or other animals. The easily burnable waste is put in the kitchen stove or in the furnace. The other materials are usually dumped in some out of the way place. In cities these ready means of disposal are not available. The waste materials of all sorts must be collected, hauled away, and disposed of on a large scale. At present this is usually done either by the city itself or under its direction by contractors. However there are still a few comparatively large cities which let each householder dispose of his waste through private collectors or scavengers who charge the householder for the service given.

Since the cost of disposing of the refuse in a city is high, some attempt is usually made to utilize the

garbage and other waste material. One method is to feed the garbage to hogs. Kitchen and table waste, if collected and removed quickly, make good food for animals, and particularly for hogs. In New England and in the small cities of other states, the garbage is collected by individual hog owners who haul the garbage out of the city in their own wagons or motor trucks.

Sometimes the city gives a contract to one man for disposing of all the garbage in the city. This man either collects it himself from the individual houses or takes it from a central station after it has been collected by the city. In most cases the hog-feeding plants themselves are privately owned and operated. By far the largest of these is at Los Angeles, California.

THE FOODS WE EAT

(Written by two girls in class of Teacher Number One)

Most boys and girls like food. They know what they eat keeps them warm and gives them the energy for play, study, work and good times.

Some foods are especially needed because they keep the body in fine running order. The scientists say that foods regulate what is going on in the body. For example, milk is useful to the body in several ways; while sugar serves it only by giving energy.

If the body grows, new cells must be made. The material with which to build new cells must come from food. Scientists have found out many interesting things about the food people eat. They can take foods to pieces; that is, analyze them in their laboratories and find out everything there is in them. Then by feeding the foods to animals, such as rats, guinea pigs, and dogs, the scientists find out if the animal will grow as it is expected to do. They can even decide how much of a food will keep the animal alive and how much it must have to grow. Scientists have not only found out what foods eaten by people contain, they have discovered which of these substances their bodies must have to grow and to be healthy, and how much of these substances people need.

These substances have been put into classes according to their chemical composition, and given names. Each class of food substance has a particular function.

When scientists studied the needs of the human body, they found that it must have more than protein, carbohydrates and fats. It must also have certain substances known as minerals. Of the eighteen necessary minerals, we find them present in every part of the body. Some in only small amounts but they are very important. People can be sure to get these by choosing foods wisely.

Calcium, phosphorus, and iron are needed in comparatively larger amounts. All the bones of the body must have calcium and phosphorus if they are to grow strong and healthy. Ninety-nine per cent of the calcium of the body is found in the bones and teeth. Iron is present in every cell of the body and is necessary if the cell does its work properly. It, with copper, must be present if the substance in the red blood cells, which is necessary for normal growth. Iodine is a substance necessary for the body if it is to function properly. Iodine is found in drinking water and some foods.

Vitamins, which occur in natural foods, control certain processes of the body. No one of the vitamins can replace another. All of them together promote growth and aid in the development of bones, and teeth

as well as increase appetite and enjoyment of food and keep people feeling well and strong. Vitamins have scientific names such as thiamin, ribflavin, and niacin. We may buy them by letter as: A.B.C.D.G. and K.

Water is a food and occurs in every tissue of the body. It makes up about 2/3 of the weight of the body. It is important regulating substance by aiding digestion as it dissolves food, so it can be used by the body through the blood stream and lymph glands. It helps to regulate the temperature of the body. Whole milk, in all its forms, is the most nearly perfect food. It furnishes not only calcium and phosphorus, but high qualities of protein, which is needed for rapid and steady growth. Milk also contains all the vitamins, some in small amounts, others, as Vitamin A, is present in larger quantities; consequently the glass of milk with the school lunch is almost a must.

This is a partial list of the body's daily needs: Milk, at least a pint a day; vegetables,at least twice a day; potatoes, once a day (sweet or Irish); a cooked leafy vegetable and a raw vegetable; rice, spaghetti, or macaroni can sometimes be used in place of potatoes. Fruits, two or more a day, an orange or tomato, and others. Eggs, meat or fish. One or two eggs a day and one serving of meat or fish. Bread or cereals, whole

grain or enriched bread every meal with butter, or enriched margarine. A cereal one a day. Fats, three teaspoons butter daily. Fats from bacon, cream, peanut butter, lard or salad dressing is desired. Sweets, brown sugar, white sugar, molasses, honey, jelly and preserves taken in small quantities. Water, six glassfuls of water a day.

Protein Foods:

Milk, eggs, meat, cheese, poultry and fish are classified as protein foods. These the body needs to build cells. In fact, the body cannot make new cells unless it has proteins to put into them. Not only milk, eggs, meat, and cheese are necessary, but oats, wheat and some vegetables, such as peas, and beans provide materials to build new cells.

Carbohydrates and Fat:

Starch and sugar which have a certain chemical composition of carbohydrate are important to the human body, because they keep it warm and give it energy.

Potatoes, flour, macaroni, rice and sugars are needed in the body every day. Fats is the most concentrated kind of energy--giving food, including butter, oleo, cream, lard, oils, and suet. The body does not need an over-abundance of fat but because they have vitamins dissolved in them, butter and cream, lard and suet may give the body enough vitamins and heat. Codliver oil

also has vitamin A and D. Corn and rice are also beneficial.

Vegetables and Fruit

Next in importance is the vegetables and fruit. They give some of the minerals and vitamins that are needed. Also furnish cellulose, which absorbs water and helps the body get rid of the waste materials.

Sometimes it is the leaves, as in cabbage, lettuce, greens and spinach, or it may be the stem, as in celery and asparagus, or the root, as in beets, carrots, turnips, and potatoes. Once in awhile it is in the seed, as in green beans, peanuts, but these have in addition, starch and protein and a good store of fat.

Fruits when eaten raw are the best way to get Vitamin C. This protects many tissues of the body, and helps keep the gums and teeth healthy, and is necessary for the growth of bones.

Vitamin C is present in largest amount in oranges, lemons, and other citrus fruits. Tomatoes, raw cabbage and turnips also give C. The ordinary meals eaten every day often do not contain enough of this vitamin unless citrus fruits or tomatoes are eaten regularly.

Cereals which give energy contain some muscle-building proteins. Whole grain cereals contain vitamins, the natural whole grain breads and cereals or enriched

and restored cereals are best. To put back the minerals and vitamins lost in milling the white flour is enriched by adding iron and certain other minerals.

As breads are usually taken at breakfast as toast, the school has a wide variety of uses for flour, in the Lunch Program, as well as a carefully-planned menu to give the child his daily requirements of a balanced diet.

Cleanliness:

Keizer School's Kitchen is very clean and sanitary. The hair is covered by both pupils and cooks, hands are cleaned before any food is handled, clean white aprons are used. And a general inspection continues, to keep everything in good shape. I enjoyed making sandwiches and helping one morning and learning about the many gagets used in the kitchen. The next day my co-worker made the sandwiches and learned about the many things going on in the kitchen which go to make a better and healthy boy or girl.

We learned why we could not find any flies to feed the frogs. There is no garbage left about to breed flies. Everything edible in the kitchen is covered, and all cans are cleaned out before the custodian takes them away. The litter is burned, and a man comes and gets the edible garbage for his pigs.

There is no electric dishwasher, but a clean lady

does a thorough job of cleaning them, until they sparkle.

The various gagets used in the kitchen are larger than most of those used in the home, but are also kept very clean. The large electric stoves are cleaned and watched over the same as mother does her new Frigidare.

I won't name all the various things we saw in the kitchen and dining room, but it was fun watching the electric mixer whirl the potatoes about.

In our arithmetic class we estimated how many pounds of this and that were eaten per day; then for a week by our class of thirty-nine. We also made menus for a week for the home, and our mothers were very kind and let us help cook and prepare the food for our family, so they could see what we ate after we understood the use of food to the body.

I will put in a couple of our menus to give an understanding of the food we are eating in our homes now.

We also estimated the cost of furnishings in the kitchen alone, so that it would be sanitary and easy to cook in.

We had fun describing by pictures and words, where we obtained certain foods, and will also put some of these in this outline.

Sincerely,

Patty Braasch and Kyle Collins
Willow E. Evans, Instructor - 6th Grade

MENU FOR A WEEK

(Planned by two girls in class of
Teacher Number One)

BREAKFAST

Sunday: Fruit Juice, pancakes, sausage, milk

Monday: Fresh fruit, egg, bacon, toast, milk

Tuesday: Fruit, cold cereal, egg, toast, milk

Wednesday: Fresh fruit, hot cereal, egg, toast, milk

Thursday: Fruit juice, egg, hot rolls, milk

Friday: Fruit, French toast, sausage, milk

Saturday: Fruit juice, waffle, bacon, milk

LUNCH

Sunday: Beef sandwich, boiled egg, fruit salad, cake, milk

Monday: tuna sandwich, potato chips, apple, cookies, milk

Tuesday: Vegetable soup, crackers, fruit, cake, milk

Wednesday: Hot dog, apple, candy bar, milk

Thursday: Cheese sandwich, banana, cake, milk

Friday: Baked beans, vegetable salad, cookies, milk

Saturday: Tuna salad, toast, berry pie, milk

DINNER

Sunday: Creamed ground beef, baked potatoes, carrot sticks, fruit jello, milk

Monday: Baked beans, fruit salad, hot rolls, pie, milk

Tuesday: Macaroni and cheese, green salad, bread and butter, cake, milk

Wednesday: Vegetable stew, gelatin salad, pudding, fruit, milk

Thursday: Roast beef, mashed potatoes, gravy, spinach, hot roll, pie, milk

Friday: Pork, baked potatoes, salad, bread and butter, pie, milk

Saturday: Egg sandwich, buttered corn, vegetable salad, fruit salad, fruit, cookies, milk

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BREAKFAST

Sunday: Fruit juice, hot oatmeal, toast, milk

Monday: Fresh fruit, cold cereal, toast, milk

Tuesday: Fruit, cereal, toast, milk

Wednesday: Fresh fruit, egg, toast, milk

Thursday: Fruit juice, waffle, bacon, milk

Friday: Fruit, cereal, hot roll, milk

Saturday: Fruit, hot cereal, toast, milk

LUNCH

Sunday: Ham sandwich, banana, cookies, milk

Monday: Meat sandwich, fruit, cookies, milk

Tuesday: Cheese sandwich, orange, cake, milk

Wednesday: Meat and gravy, salad, bread, milk

Thursday: Peas, carrot sticks, hot roll, fruit, milk

Friday: Tuna sandwich, salad, orange, milk

Saturday: Hot dog, carrot sticks, fruit, milk

DINNER

Sunday: Meat, potatoes, bread and butter, fruit salad, milk

Monday: Ham, Spanish rice, vegetable salad, bread and butter, milk

Tuesday: Hash, scrambled eggs, carrot sticks, hot roll, milk

Wednesday: Vegetable soup, crackers, vegetable salad, fruit, milk

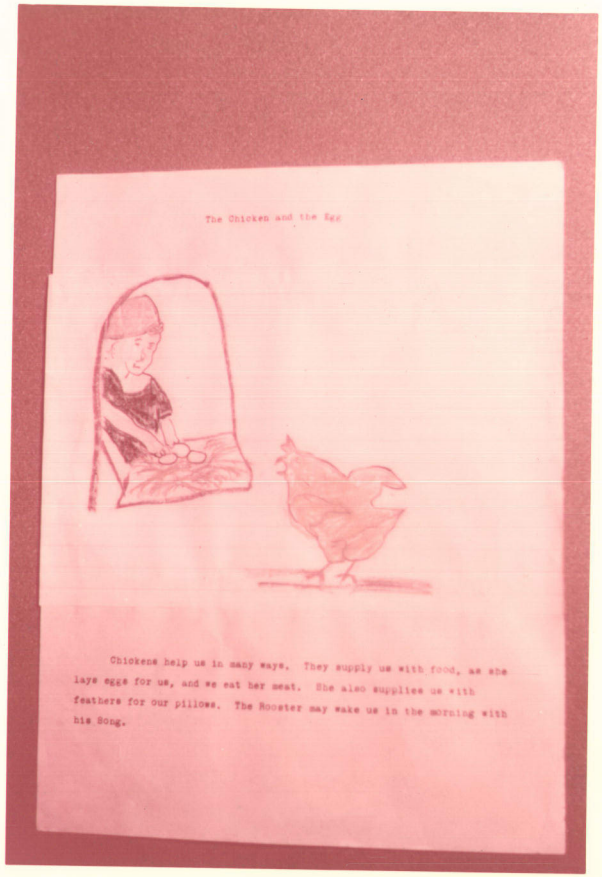
Thursday: Beef with gravy, spinach, bread and butter, cornstarch pudding, milk

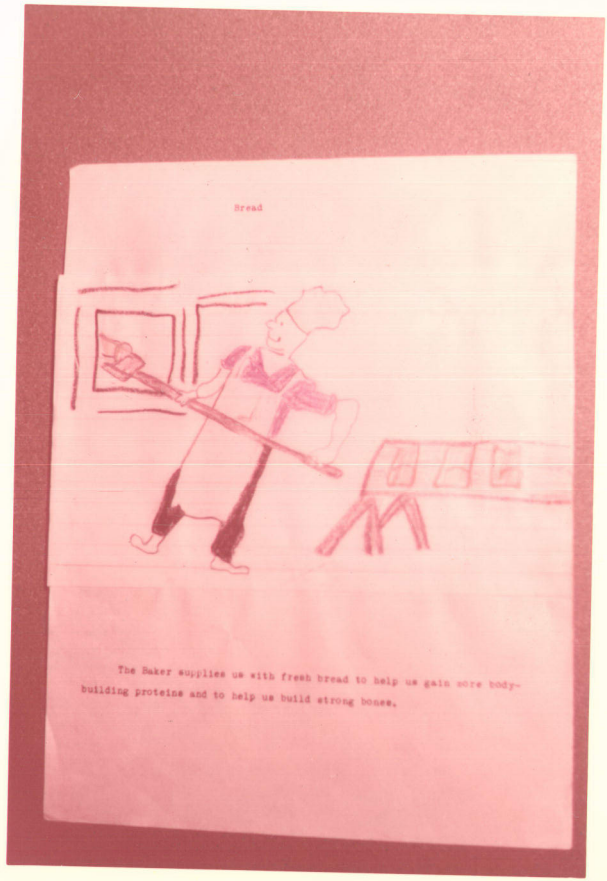
Friday: Baked beans, cottage cheese, hot rolls, pineapple, cake, milk

Saturday: Baked chicken, potatoes, vegetable salad, bread and butter, fruit, milk

DRAWINGS MADE BY TWO GIRLS IN CLASS

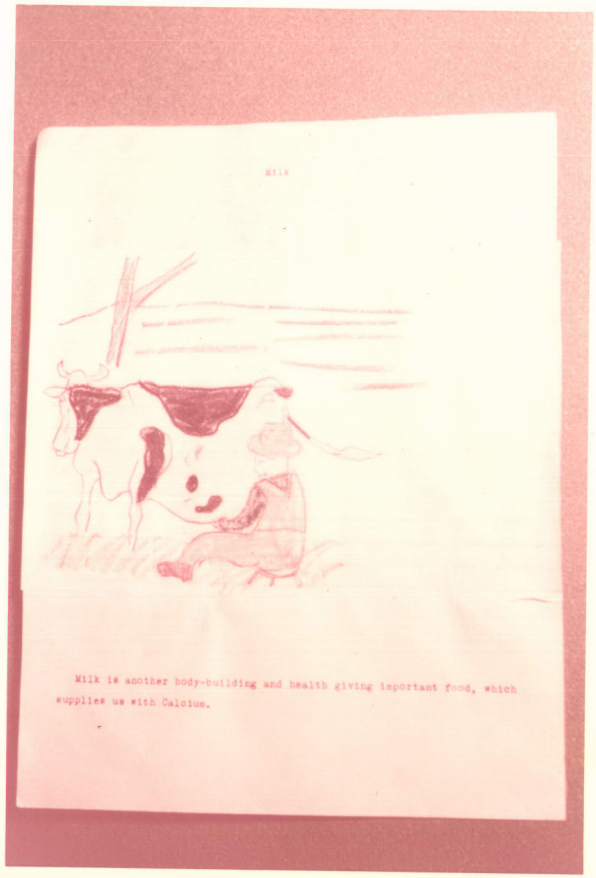
OF TEACHER NUMBER ONE





DRAWINGS MADE BY TWO GIRLS IN CLASS

OF TEACHER NUMBER ONE



Milk

Milk is another body-building and health giving important food, which supplies us with Calcium.

Citrus Fruits

Oranges are one of our important fruits, and they supply us with Vitamin C.

MY HEALTH IS MY WEALTH

A Radio Play, Planned and Presented
By Pupils of Teacher Number Eight

Narrator - Good afternoon, boys and girls, ladies and gentlemen. This is Kathy Wyatt, narrator, for this health broadcast entitled, My Health is My Wealth, written by the boys and girls in our room. We hope you enjoy it and learn a few lessons from it. All the members of the cast play themselves in the play except the teacher known as Miss Wright, who is played by a pupil, Linda Webster.

Mike - Hey Wayne, do you know what we are having in the cafeteria today?

Wayne - No, I don't, but I've got a menu around here somewhere. Let's see, here it is. We are having chili, cheese sticks, pear wedges, and for dessert we are having pineapple up-side-down cake, and milk.

Miss Wright - Hey, what's going on here?

Mike - Nothing, Miss Wright. We are just discussing what we are having for lunch.

Miss Wright - That's one of the advantages of a menu.

Mike - Let's discuss some of the advantages and disadvantages of a menu.

Miss Wright - That's a good idea, Mike. Wayne, have you one?

Wayne - Yes, one advantage is our mothers can avoid cooking the same thing for dinner as we had for lunch.

Miss Wright - That's a good one, Wayne. Janee, have you another one?

Janee - Yes, Miss Wright, I do. One is, our mothers might use menus as a guide to plan balanced meals for our families.

Miss Wright - Mike, how about you?

Mike - Your parents can tell if you get the right kinds of food every day.

Miss Wright - That's very good. Are there any disadvantages?

Janee - I've got one. If you have a menu you might only want to eat here when they have food you like. Then you won't get what you need in your food.

Miss Wright - That's good. Anyone else? (pause) Then let's line up for lunch. Who would like to take the flowers for our table centerpiece? How about you, Janee?

Janee - O.K. I think it is so nice to have flowers at our table because they smell pretty and they make our meal more pleasant.

Narrator - Now the boys and girls are walking into the lavatory. Let's listen to the girls while they wash their hands.

Adeline - Come on, LaVerna, I'll race you.

LaVerna - No, thanks, I want to get my hands clean.

Adeline - Yes, but I want to be first in line.

LaVerna - I would rather be last in line than not to get my hands clean.

Adeline - Well, I don't care I am going to be first in line, so there!

Cheryl - Adeline, did you wash your hands good?

Adeline - No.

Cheryl - Well you had better because if you don't, you spread germs and you don't want to do that, do you?

Adeline - No, but I want to be first in line.

Cheryl - Adeline, don't you remember the boys go first today?

Adeline - Oh, that's right, I might as well wash my hands today and every day.

Cheryl - Do you know why you are supposed to wash your hands?

Adeline - Well, to keep the germs off your hands and out of your food.

Cheryl - That's two of the reasons. Do you know any more?

Adeline - Germs make you sick.

Cheryl - Do you know any more?

Adeline - No.

Cheryl - Well, we had better get in line to eat lunch now.

Narrator - Now the boys and girls are in the serving line. Let's listen.

Loren - Mrs. Marsh (cook), I don't care for any spinach.

Clark - Take a little anyway.

Loren - Why, I hate spinach!

Clark - Come on, take a little anyway. It's good for you.

Loren - Alright!

Donna - How do you like your spinach, Loren?

Loren - Haven't tasted it yet.

Miss Wright - Try it, Loren.

Carolyn - Yes, try it.

Donna - You know, Mrs. Marsh works hard to prepare this food.

Loren - Yes, this is pretty good after all.

Donna - Do I have to eat all this cheese? It makes me sick.

Miss Wright - Yes, you know it contains a lot of calcium.

Donna - O.K.

Betty - (Eating soup noisily) Slurp, slurp. Boy this chili is hot!

Janice - Betty, you shouldn't eat your chili that way. Let it cool awhile, then eat it.

Miss Wright - Janice is right. We must be very careful about our table manners. I wonder, what are some things people do every day that are really bad manners? Carrie Lou, what do you think?

Carrie Lou - Well, I have seen some people talk with their mouths full of food and that doesn't look very nice.

Janee - Some people sit at the table propped up by their elbows.

Carrie Lou - When people cough at the table it not only spreads germs but it is a very bad manner.

Janee - Yes, and what about reaching in front of someone to grab something?

Carrie Lou - It doesn't look very nice to see people eating with their fingers.

Betty - Now I see what you mean, Janice. Table manners can make a big difference in your appearance at the table. I will be very careful to watch myself next time.

Lee - Oh, I don't like this chili. I don't have to eat chili at home.

Alan - You should eat it. You waste your food if you don't eat it.

Nita - I think you should eat it, too. I know lots of boys and girls who would give anything for that chili.

Marcella - I'm getting full. I guess I won't eat this beef in my chili.

Lee - Marcella, haven't you ever purchased beef, it's expensive!

Alan - I would sure hate to be the cook when everyone doesn't eat their food. It sure hurts her feelings and wastes her time.

Nita - It just isn't polite not to eat your food.

Ronnie - Miss Wright, do I have to eat my dessert?

Miss Wright - Yes, it has fruit in it and fruit is very good for you.

Ronnie - What if I don't like it?

Donna - Well, Ronnie, Miss Wright was just trying to help you.

Clark - All the food Mrs. Marsh cooks has some of the Basic Seven foods in it. You know that.

Carolyn - Yes, the Basic Seven foods are important for good health.

Loren - Yes, and spinach has lots of iron in it.

Clark - Well, then why don't you eat the rest of your spinach?

Loren - All right, I'll eat it.

Carolyn - Well, I'm full now.

Miss Wright - Yes, all of us are done eating and all of us may be excused, and remember, don't rush in the scraping line.