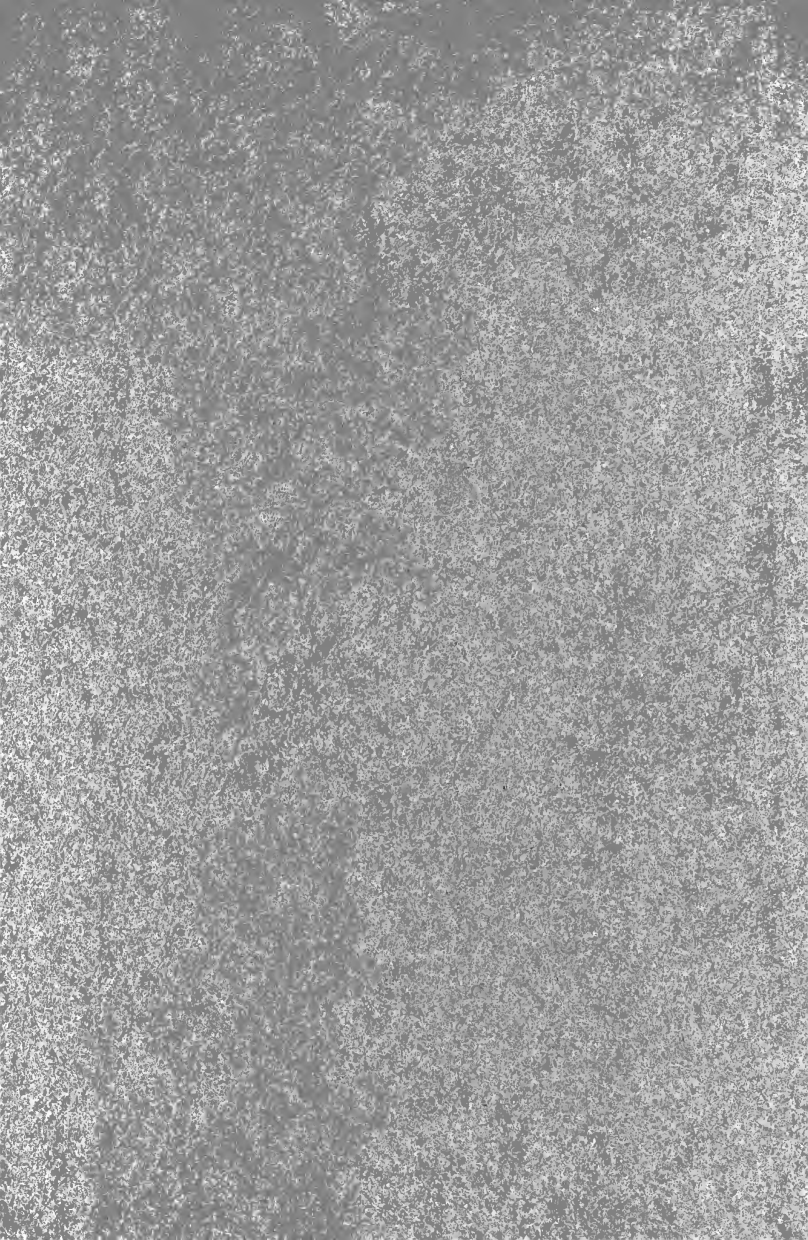


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Home Economics in the ^{School}
Elementary and Secondary
Schools

By

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Printed July, 1922
Reprinted November, 1922

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PREFACE

THIS book is planned primarily as a text-book for students in special methods courses in home economics in colleges and normal schools. In addition it should be valuable to experienced teachers as it contains discussions of many of the practical teaching problems that they meet in their daily work, as well as a more general study of the purposes and results of home economics teaching.

Teachers of special methods courses in home economics have been handicapped because little material on the principles and methods of teaching home economics has been available for use as text or reference books for these classes. This has resulted not only in less effective teaching in these courses, due to the necessity of using a lecture method rather than a problem method in the class, but also in the slow development of a common understanding or interpretation of some of the most fundamental problems in home economics teaching.

This book has been written with the hope that it will be of assistance in both of these situations. It is based on several years' experience in teaching a special methods course in which many of the students have been experienced teachers. The point of view that is emphasized and the conclusions that are reached are the results of the discussions carried on in these classes. It is because this material embodies or reflects the consensus of opinion of many persons who have received their training in schools in different parts of the country that it is offered as a first step toward a more scientific study of the teaching of home economics.

One of the points that is emphasized throughout this book is the need of using specific problems, for which the students see the need of a solution, as the basis of class

discussions. Such a method of teaching should be used in the study of the topics included in the following chapters. This means that carefully directed observations of classroom practices and some experience in planning for or taking part in particular teaching situations should be a definite part of a special methods course in order to give meaning to practical teaching problems.

It is expected that students who use this book shall have completed courses in foods, clothing, shelter, household management, etc., so that they may have knowledge of the different aspects of these subjects and of the technical problems of each type of work. It is presumed, furthermore, that students have had education courses which gave them the elements of educational methods, principles, and administration.

The content of special methods courses in home economics shows great variation in different schools. In addition to the material outlined here, class time in these courses may be given to more extended discussion of general methods, if such work is not required as a prerequisite, and to the study of some or all of the following topics: lesson plans; equipment, supplies, and illustrative material; administrative responsibilities of the teacher; the problems of rural and urban extension; rural school problems.

The writer wishes to acknowledge the helpful suggestions that she received from the members of the Home Economics Departments of the University of Chicago and the University of Minnesota, who read the manuscript, and the encouragement and criticism given during the writing of the book by Miss Talbot of the University of Chicago and by Miss Josephine Berry. Less personal obligations have been acknowledged in the footnotes.

CONTENTS

PART I

THE SUBJECT MATTER AND METHODS OF HOME ECONOMICS

<i>Chapter</i>	<i>Page</i>
I. THE SELECTION AND ORGANIZATION OF SUBJECT MATTER	I
✓II. METHODS OF TEACHING IN HOME ECONOMICS CLASSES	28
III. FOOD AND ITS PREPARATION	60
IV. FOOD SELECTION ✓	85
✓V. SEWING COURSES	104
✓VI. THE SELECTION OF CLOTHING	128
✓VII. THE HOUSE AND ITS SELECTION; PLANNING, DECORATION, AND CARE	151
✓VIII. HOUSEHOLD MANAGEMENT, AND THE FAMILY AND ITS CARE	171

PART II

PRINCIPLES OF HOME ECONOMICS TEACHING

IX. THE STATUS OF HOME ECONOMICS IN THE SCHOOLS	203
X. AIMS OF HOME ECONOMICS TEACHING	218
XI. HOME ECONOMICS IN VOCATIONAL AND LIBERAL EDUCATION	230
XII. THE NATURAL SCIENCES AND HOME ECONOMICS .	253
XIII. THE SOCIAL SCIENCES AND HOME ECONOMICS .	269
XIV. ART AND HOME ECONOMICS	279
XV. COURSES IN THE ELEMENTARY AND SECONDARY SCHOOLS	287
APPENDIX	313

PART I

THE SUBJECT MATTER AND
METHODS OF HOME
ECONOMICS



CHAPTER I

THE SELECTION AND ORGANIZATION OF SUBJECT MATTER

OUTLINE OF THE CHAPTER

THE SELECTION OF SUBJECT MATTER.

Selection based on tradition.

Selection based on the needs of students.

SELECTION IN HOME ECONOMICS COURSES.

The conventional course.

Group and community needs in courses.

THE ARRANGEMENT OF SUBJECT MATTER IN TEACHING UNITS.

The value of large comprehensive topics.

Types of topics.

Concrete topics.

General topics.

USE OF GENERAL AND CONCRETE TOPICS.

Difference between comprehensive and theoretical courses.

Danger of an incomplete study of principles.

Kinds of topics in different types of courses.

PROJECTS.

Distinction between practical problems and projects.

Use of projects in home economics courses.

LENGTH OF A COURSE AS AFFECTING THE SELECTION OF SUBJECT MATTER.

The general home economics course.

Unit courses.

The Selection of Subject Matter. The first question that a home economics teacher in a new school asks herself is, "What shall I teach?" This same question is being asked by the most progressive teachers of all subjects of instruction. A course of study that is built on traditional lines is no longer acceptable to a teacher who is trying to

make her class work of the greatest social value to her students, and who, therefore, must select the subject matter of her courses to fit the needs, interests, and capacities of her students. Such a teacher must look upon her subject matter, not as an end, but as a means, and she must learn to analyze, select, and organize it, so that it may serve her purposes. The subject of home economics, which in its essence is the study of home activities and home life and interests, particularly needs wise choice in the selection and organization of subject matter, and intelligent study of the best methods of teaching, if it is to attempt to meet the widely differing needs of the students' homes.

Selection based on tradition. In subjects that have been organized for instruction in the schools for a long time, there is much similarity in the content of courses. Long experimentation has proved the relative values of different topics and the best sequence in which these topics should be taught, in order to give students mastery of the subject as rapidly and completely as possible. Though the subject matter of these courses has gradually changed with fuller understanding of the needs and abilities of children in the different grades, the traditional course is based on giving a comprehensive and progressive exposition of the subject, and not on selecting the topics that may be of the greatest social value to a particular group.

Selection based on the needs of students. In contrast to this, we find many subjects in which no such uniformity in the subject matter of courses exists. A general science course in one school is quite a different thing from a similarly named course in another school, and the variety of topics that may be included in a civics course seems almost unlimited. The content of such courses represents the selection of subject matter by individual teachers or groups of teachers, many of whom have widely differing

educational objectives, rather than the standardized selection of many successive teachers. Some of these courses show immature or faulty judgment and limited educational ideals, and they survive merely because of the enterprise of their originators, who have put them in text-book form; others are based on sound pedagogical principles and fundamental social values, and will stand the test of use by many teachers. Most of these courses, however, have one common value: they represent a conscious effort to adapt subject matter to the needs of students.

There is steadily growing evidence in text-books and courses of study, that the needs of the students are becoming increasingly the basis for the selection of the topics of courses, even in the most traditional of subjects. In some cases, the changes in the subject matter of courses are not very marked and consist, mainly, of the addition of new topics, or the gradual elimination of topics that were unrelated to the interests of children, or that no longer had any real significance in the changing demands of social life. Changes of this type can be seen in such basic subjects of the curriculum as mathematics and English. Even when courses show little variation in their main topics, the increased use of illustrative materials or problems that will relate subject matter and the interests, activities, or experience of the students, illustrates the tendency to emphasize social uses.

The selection of subject matter on the basis of the social needs or of the particular demands of the vocational activities of students has resulted in the complete reorganization of the instruction in many courses. The type of material found in newer courses in history, civics, science, geography, and other subjects illustrates the fundamental changes in the interpretation of the relative values of different topics that have been brought about by a clearer understanding

of social conditions and social needs. Civics courses illustrate this change to a marked degree, for the older courses consisted mainly of a study of governmental forms and institutions, while the newer courses are concerned with the study of the social problems that are the basis or result of community life.

The effect on subject matter of the more specialized needs of a vocation can be seen in the selection of topics for courses in shop mathematics, business English, agricultural and home economics science, costume or household design, etc.

Selection in Home Economics Courses. Home economics is one of the newer subjects of the curriculum, and the content of courses illustrates the selection by individual teachers, rather than a standardized selection of subject matter. As a result, courses show great variation in their content and arrangement. Topics that are emphasized in one course are subordinated in another; there is little agreement among teachers as to the relative value or difficulty of problems, or as to the best sequence in which to present subject matter.

This lack of uniformity is due, probably, to a certain extent, to the response to the varying needs of different groups of children, but there are also several other factors that affect it: (1) The expansion in the subject matter of home economics has been so rapid that every teacher of this subject has felt the need of constantly changing her courses to include new topics or problems. This has greatly retarded the writing of text-books, which is an essential step in the standardization of instruction in a subject. (2) The successive demands that have been made upon home economics teachers to select and organize their subject matter so that it might accomplish the objectives of manual training, general education, and vocational

training, have also tended to increase the diversity of content seen in home economics courses. (3) Lack of authoritative studies of the relative values of different types of subject matter and of the results of teaching is another element, since without such studies it is difficult for teachers to reach sound conclusions as to the best selection of subject matter, except by a long period of individual experimentation.

Every home economics teacher should feel the responsibility, not only of trying to select the best subject matter for her own courses, but of coöperating with other teachers with the object of reaching some common agreement as to the subject matter that will be of greatest value to different groups of children. This does not mean that a standard course should be established, but that standards for selecting subject matter must be agreed to by many teachers, if good home economics teaching is to become universal.

The conventional course. A survey of text-books and course outlines will show that though home economics courses are unstandardized and contain great variety in subject matter, there is a marked tendency in many of them to perpetuate the same selection and arrangement of subject matter that is found in teacher training courses. A course in foods or clothing planned for normal school or college students is concerned, primarily, with presenting a comprehensive exposition of the facts and principles of the subject that will give the prospective teacher command of her subject matter, and even though such a course may be simplified to meet the capacities of elementary or secondary school students, it is quite unadapted to the needs of all groups of children. As a result, such a course becomes a formal study of a subject, not a study of vital and real problems.

Group and community needs in courses. If home economics courses are to be so planned that they will be of maximum value to the children, they must reflect the home conditions and needs of the group for whom the course is given and the community in which these homes are found. A course of study planned for a rural school will probably include many topics that would have no significance for a city group; and the home conditions of different economic groups within a city system may necessitate wide variations in the choice of the topics which constitute the course, as well as a difference in emphasis on the different aspects of the topic. It is the failure to respond to group and community needs that has been the greatest weakness of many of the older courses of study in home economics.

Adaptation of courses to the needs of the group is the keynote of effective work in vocational schools. Vocational home economics cannot train students for "average" or "typical" homes; it must give training that will make students effective homemakers in particular types of homes, and it is the needs of these homes that must be considered in the selection of the subject matter of courses. Short courses offered in continuation and extension schools are specially in need of a wise selection of topics that is based on the needs of the particular group of students.

In making the needs or uses of the students the basis for the selection of the subject matter of home economics courses, it is most important that the needs of the group should not be interpreted too narrowly. The immediate and practical value of giving, to a group of girls, skill in the performance of some of the activities which they are carrying out in their own homes has such a direct appeal, not only to the girls themselves, but to their families, that such needs have been, very largely, the basis for

the selection of subject matter in many of the older courses in cooking, sewing, and housewifery. With the growth of the broader interpretation of the subject matter of home economics has come the realization that the selection and purchasing of food, clothing, and household furnishings, the study and organization of individual and family expenditures, the training of children, the creation of the best social relationships within the family and with the community, are also homemaking interests and activities. The acquisition of skill in the performance of a few types of household work may be a less real need of children than the development of power to analyze and solve household problems, and to form judgments of qualities, conditions, and situations that will lead to good selection of the essentials of living.

It is evident that the first step in selecting the subject matter of a course is to decide which aspects of the subject have the greatest social value to the group for whom the course is being planned. Subject matter that has fundamental social value should have the following characteristics: (1) It must be worth while educationally; that is, it must offer an opportunity to give a type of educational experience that will develop, progressively, the powers and interests of the students. (2) It must be worth while from the standpoint of the immediate or future use of the children. (3) It should help to interpret the problems and activities of the immediate environment of the students.

The Arrangement of Subject Matter in Teaching Units. A course in any subject is made up of a number of teaching units known as topics. The problem of selecting subject matter consists, first, of the selection of the main topics of the course; and, second, of the selection of the particular facts, principles, problems, illustrations, and other related material that constitute the subject matter of the

topic. A main topic should be a fairly comprehensive division of subject matter, and it may include many sub-topics.

The value of large comprehensive topics. The selection of a few main topics as the basis of a course gives an opportunity for a more intensive and related study of subject matter than is possible when a course consists of a number of smaller topics that are not intimately related. The intensive study of a topic not only gives subject matter greater meaning, but it makes it possible to cover the topic so adequately that the class acquires power to use subject matter and relate it to their own experience. A food preparation course, that gives extended experience in the preparation of a few typical and common food materials, will give far more power to cook than one that attempts to teach the preparation of all types of food materials. A household management course that makes an intensive study of a few management problems will give a realization of the social values of home activities that would never result from the study of the variety of topics included in many so-called household management courses.

One of the weaknesses of home economics courses, particularly of those given in the elementary school, has been the tendency to attempt to include a great variety of subject matter in a single course. It is absolutely impossible, for example, to teach the principles of selection, preparation, and care of all the main classes of food materials, to give knowledge of and skill in the technics of different cooking methods, to establish habits of good selection of foods, and to establish habits of laboratory work, all of these, in the thirty-six lessons in food offered in many elementary schools. If the result of a year's work is to be seen in any definite achievement, such as usable knowledge of facts and principles, acquired habits, awakened interest or ability to think out problems, the work of a course should be grouped

around a few big topics, and only those aspects of the subject that have direct bearing upon these topics should be included.

It is not a simple matter to decide upon the relative values of subject matter, especially when every problem or topic has some easily seen value, but this is one of the fundamental problems in the effective selection of the subject matter of courses. It is a particularly difficult problem for the inexperienced teacher, who comes to the task with thorough knowledge of her subject, but with little realization of what the actual accomplishment of a class in a single lesson really is, and of how carefully the achievements of each day must be built into the work of each succeeding day, if the topic that is being studied is to have continuity and the course real meaning to the class. Such a teacher must either have recourse to a ready-made course, outlined in a text-book, or learn, through observation and study of the needs, experience, and accomplishment of her class and through weighing the value of every fact or problem, to select only that subject matter which will serve the purposes of her course.

Types of topics. A comparison of the main topics of several courses and text-books will show that there are two kinds of topics: concrete, or practical topics, that emphasize subject matter in use or present a study of principles through their application; and general, or abstract topics, that outline a comprehensive study of the subject and emphasize the principles or the natural divisions of the subject matter.

Concrete topics. The selection of a few basic problems or a few concrete household interests or activities to serve as units of instruction, or as central ideas for the selection and grouping of subject matter, has become the most usual method of organization for home economics courses in the elementary school and in many secondary schools. A food

course that uses the school lunch, the home dinner or supper, and the home breakfast, as the topics or concrete problems for teaching intelligent use of foods or the preparation of common foods, offers the opportunity for a much more specialized selection of subject matter than a course that is based on a general study of the principles of selection and preparation of all types of food materials. A short course on the house that, through an intensive study of the care and furnishing of a girl's own room, gives a class insight into the main problems of house care and furnishing, should be of greater practical value than a course that attempts to give a more comprehensive study of the house, but that lacks the purposeful study of problems which usually accompanies the intensive study of a concrete topic.

The organization of subject matter around activities rather than problems is a type of concrete topic often found in practical subjects: making a dress, planting a garden, building a garage, selecting a house. Some of these are fairly extensive topics that will serve as the basis for the selection of a large part of the work of a course, while others are more simple topics, requiring only a few lessons to complete them. Topics of this type are used very generally in clothing courses. One of the greatest values of organizing instruction around a productive activity is that the immediate need of solving the problems involved in the activity gives vital interest to the study of subject matter.

General topics. Though the selection of concrete problems or activities for the main topics of a course is a common method of organizing subject matter in home economics courses, a study of several food texts planned for elementary and secondary schools will show that the topical divisions of many food courses are based on principles or on a study of some definite part of the subject. The following

topical headings, selected from several well-known textbooks, illustrate this point: The Preservation of Food; Combustion and Fuels; Carbohydrates; Protein Foods; Food Requirements; Stimulants; Radiation and Conduction of Heat; Meats; Eggs; Vegetables. Such topics as these give an opportunity for a comprehensive study of the subject that will give the students all of the facts and principles of the subject as completely as is possible at their stage of development. This is the traditional method of arranging subject matter, and it is found in all subjects in advanced courses and in some subjects even in elementary school courses.

Use of General and Concrete Topics. Both of the methods of organizing subject matter, around the principles or natural subdivisions of the subject or around concrete problems or activities, can be misused. In the desire to present a comprehensive study of a subject, a course may become so theoretical that the students fail to realize the practical value of their work. On the other hand, there is always danger that when only a few of the principles of a subject are considered, students may be left with knowledge of a few facts and principles without power to recognize their relation to other problems or situations.

Difference between comprehensive and theoretical courses. A comprehensive study of a subject does not, necessarily, mean a theoretical course, if the study of each topic is approached through the experience and interests of the students, and if many practical problems are used throughout the course to show concrete applications of principles. With the idea of presenting a logical sequence of subject matter, many food teachers have made the same mistake that is seen in other subjects, that is, to approach their subject from the standpoint of their own knowledge and experience rather than from that of the students.¹ The be-

¹ J. Dewey, "How We Think," page 98. D. C. Heath & Co.

ginning course or text-book in foods, that in the first lesson presents a classification of food materials in terms of their composition or uses in the body, illustrates a theoretical approach to the study of foods quite unrelated to the experience of the students. Whereas, the course that starts with a study of some familiar food, and in which the concepts of carbohydrate, protein, and similar technical terms are built up from the children's experience in working with foods containing these materials, illustrates an equally logical and less theoretical arrangement, and one which is adapted to a comprehensive study of food materials. In such a course as this a lesson on the classification of food materials might be given somewhat later in the course as a summary of the class experience rather than as an introduction to it.

Danger of an incomplete study of principles. It is evident that in the study of concrete problems or activities, only those principles or facts that are directly concerned will be considered. Such a topic as, The Selection of a Ready-Made School Dress, will necessitate study of some principles of costume design, some principles of fabric selection, and a few of the economic principles involved in purchasing; but no systematic study of textiles, costume design, or purchasing will be undertaken. Principles that are studied through their application in a particular situation are made more significant; but there is always danger that students will be left with knowledge of many particular facts and principles, but with no fundamental understanding of the subject. A course that consists of the study of concrete problems necessitates a very careful selection of topics in order to give the class big general concepts that have universal significance.

The study of a number of concrete topics that do not bear a close relation to one another may give a class some

useful information or experience; but it will not give the wider experience and richer understanding of a subject that comes when the selection of topics is controlled by a unifying idea, and each successive topic builds upon the facts and principles studied in the preceding topics. This lack of close relation between the topics of a course is often to be seen in the general home economics course that attempts to give students experience in the different productive activities of the home. The activities of making a dress, making a hat, cleaning a room, preparing a meal, and laundering a dress require quite dissimilar technical skill, information, and basic principles, and there is very little that can be carried over from the study of one of these topics into the study of the others. Some teachers try to counteract this isolation of topics by the use of a general problem as the statement of the purpose of the course; for example, "What must a girl of my age know of food, clothing, and cleanliness in order to help my family to keep well and strong and happy?"¹ In spite of such general statements, it is difficult to build up a close connection between the main topics of such a course.

Kinds of topics in different types of courses. The kind of topics that should be used for any course should depend upon the maturity of the students and the length of the course. Concrete topics are most valuable for introductory courses, for an elementary treatment of a theoretical or complex subject, or for a single short course in a subject including a great variety of subject matter. Courses in "general" science, "civic" biology, "applied" science, "community" civics, "survey" of art, and "general" home economics illustrate the use of this type of organization in introductory or applied courses in the secondary

¹"Household Arts for the Seventh and Eighth Grades." *Teachers College Record*, March, 1915.

school. The type problems or "projects" used as the basis of instruction in geography and history courses in the elementary school illustrate its use in elementary courses. The "unit" courses used in extension and continuation classes consist of concrete topics.

When the first course in a subject has been made up of a study of concrete problems, it is desirable that the second course be a more systematic study of subject matter. The ninth or tenth grade food course, that follows an elementary course in foods offered in the earlier grades, illustrates this change. The same thing can be seen in the chemistry and physics courses that follow a course in general or applied science given in the eighth or ninth grade. The more mature student is not only able to grasp a more theoretical presentation of subject matter, but also her study of concrete problems in the earlier grades gives her a background of experience that makes the later courses more significant.

Concrete topics are used, universally, in vocational courses. If productive power is the aim of a course, practical problems and activities are the natural centers of correlation for the study of the related science and art, knowledge of which is essential to efficient production. If the subject matter related to an activity is being studied while the activity is being carried on, we have both of the elements of productive power—technical knowledge and manual ability—developing side by side.

Projects. There has been much discussion among home economics teachers regarding the use of "projects" as units or centers of instruction. It is quite evident, however, that the variety of meanings given to this term has made it difficult to arrive at definite conclusions as to the value of projects or as to the best method of using them. Though there is general agreement that a project is a center around

which instruction is grouped, there are two general interpretations of this term: (1) that a project is primarily a unit of productive work; and (2) that it is any unit, whether productive or not, that deals with a concrete problem and that requires purposeful study by the students.

As used in history, geography, science, or civics courses, the name project is generally applied to concrete problems that are sufficiently extensive to require the same type of constructive and purposeful thinking and study of contributing elements as are involved in the carrying out of similar projects outside of the school.¹ Such a definition is so general that the topics that are called projects in many of these courses are very different in character, as can be seen by the following list: The writing and production of a play on Greek life; "The Greek fleets"; The lumber industry; The planning of a "Clean Alley" campaign; Extending the bell system of the school building. These are all fairly extensive concrete topics, but in some of them the need of constructive thinking is more evident than in others, as by their very title they show that they require the making of a comprehensive plan or the planning and carrying out of a piece of productive work.

If such topics as, The lumber industry, Greek fleets, Indian life, etc., are to be called projects, it is evident that the methods of teaching that are used must differ in some way from those used in the study of other concrete topics. As a project is "that which is projected or designed," a project method must mean that the working out of the plans for studying the topic is the problem of the class rather than of the teacher. By making such planning part of the work of the class, the topic becomes more vital to the students, and it should lead to a more purposeful study of

¹ S. C. Parker, "General Methods of Teaching in Elementary Schools," page 121. Ginn & Co.

the sub-topics and related technical material, for such study will be the result of a conscious need of information or experience on the part of the students.

If the value of a project lies in the development of the interest, the initiative, and the responsibility of the students, it is most important that teachers understand the essential characteristics of a project method in order that they may use such methods in their teaching. Any concrete topic may be taught as a project; and, on the contrary, any so-called project, even those involving a constructive problem, such as the selection of a house, the making of a dress, the running of a lunchroom, etc., may be so presented that the initiative of the students in working out the problems is completely subordinated to the formal study of sub-topics prescribed by the teacher.

Because of the general use of projects in vocational work, it has been suggested¹ that the use of this term be limited to "a definite unit of instruction which combines practical or manipulative achievement with a definite enhancement of power to apply related technical knowledge." Such a definition adds no new elements to the previous definition of a project as a type of concrete topic, except to limit the use of this term to topics that require productive work, for it is quite evident that "enhancement of power to apply related technical knowledge" should result from the study of related facts and principles that always accompanies the effective study of a concrete topic.

Distinction between practical problems and projects. Since home economics includes a great number of productive activities, the projects that are undertaken in these courses include, usually, the element of practical or manipulative achievement. In many cases, however, the scope of the problem defined as a project is so limited that it lacks

¹ D. Snedden, "Vocational Education," page 561. Macmillan Co.

all the other essential characteristics of a real project. The following statement¹ illustrates this point:

“In this manual the units of study are the project and the topic. Any definite undertaking for the pupil in which it is the primary purpose to have her acquire knowledge and experience by doing some work of concrete and objective nature (*e.g.*, buying and preparing an article of food, making a dress, observing and reporting on the location of a house, canning food, taking apart and putting together a sewing machine, taking charge of an infant and reporting on the care given, etc.) is called a project. On the other hand, when the learner is expected to obtain and assemble information regarding a definite subdivision of her subject by reading, hearing lectures, performing illustrative laboratory experiments, etc., the unit of work thus assigned is called a topic. It is expected that information obtained from reading, class discussions, and laboratory experiments will be used in connection with learning through the project also; but the primary purpose in project study is learning through concrete doing, whereas in topic study the primary object is learning through acquisition of knowledge tested and organized by others. Another distinction of importance is that a chief object of project work is skill or capacity to do, whereas a chief object of topic study is knowledge or taste.”

The difference between these two forms of exercises is clearly seen in the following illustration:

“Topic.—Study of cereals. Project.—Making oatmeal.

Topic.—Preservation of food. Project.—Canning tomatoes.”

In this definition, a project is any unit of work, no matter how small, in which the student is doing some work of concrete or objective nature, “making a loaf of bread, making an apron, washing the dishes of a dinner, repairing a sewing machine,” etc. As an illustration of the possible use of such a project, let us suppose that the topic that is being studied is bread making. By knowledge gained in class discussion, each member of the class makes a loaf of bread in the laboratory period; in this case, the basic principles to be considered in bread making have been developed through discussion and experiment, and they have been applied in

¹“Household Arts.” *Bulletin of the Board of Education, Commonwealth of Massachusetts*, No. 29, 1916.

the concrete problem of making a loaf of bread. Is this concrete problem a school project? Let us consider another situation. Having carried through in the classroom the lessons in bread making outlined above, the students are asked to make at home a loaf of graham bread. This problem will reproduce many of the conditions already encountered in the making of white bread and a few additional situations that were previously considered in making graham muffins. Is such a problem a home project? Are not such exercises more accurately designated as concrete problems or practicums?

The distinction between a topic and a project used in this syllabus is due probably to a desire to secure a conscious division between the theoretical and practical work of the course and to emphasize the value of concrete problems and problem-solving methods. A concrete problem or activity may be used to give meaning to the study of a larger and more general topic as well as to constitute a topic itself. It is quite evident that the canning of tomatoes and the making of oatmeal, used as illustrations of projects, are both smaller units and involve fewer principles than the larger topics, study of cereals and food preservation, to which they contribute. The making of costumes for a play or the management of a school lunch for a definite period represent sufficiently extensive problems, however, so that the subject matter considered by the class would be conditioned by the problem itself. The making of oatmeal is a simple, concrete problem, while the making of costumes for a play is a concrete topic or a project.

A more acceptable definition of the term project has been that used in agricultural and extension work:

"It is desirable, also, that the term 'class project' shall be applied only to rather ambitious, well-planned lines of work for which we might use the term 'home project' if they are located at home. The school or class project lacks the individual responsibility found

in the home project, but should not lack the other features and should not be confounded with practicums, experiments, problems, and other minor exercises.

If a school leases an orchard, prunes, scrapes, sprays, tills, and does all the work needed for a year on a class basis, this is a class project as distinguished from an individual home project, but it requires similar methods and records. The pruning is a practicum rather than a project, whether done by a class or by an individual, and many different practicums may be included in a single project."¹

This definition defines two requirements: a problem that involves the solution of many minor problems and that is extensive enough to require a long period of observation, practice, and experimentation; and the necessity of having the carrying out of the project the responsibility of the individual in a home project and of the class in a school project. Fundamentally, this will mean that a project must have practical value or real meaning to the boy or girl in order that it shall be carried through to its final completion.

Use of projects in home economics courses. In the larger meaning of the term, projects have not been used to any great extent in home economics teaching in the elementary and secondary schools. The most usual course consists of a systematic study of general or concrete topics, with the occasional use of school or home projects. With the development of vocational home economics, the value of the project as a teaching unit has been greatly emphasized, and all home economics teachers are beginning to give a larger proportion of the time of their classes to the study of projects.

There is marked difference of opinion among home economics teachers as to the extent to which project teaching should dominate the work of a course. There are so many factors involved in this problem and so little has been done in the way of systematic experimentation with

¹ "The Home Project as a Phase of Vocational Agricultural Education." Federal Board for Vocational Education, Bulletin No. 21.

project teaching that no adequate discussion of this point can be undertaken. It is quite evident, however, that many questions like the following must be answered before any decisions can be reached as to the wisest use of projects. To what extent should the maturity of the students influence the use of projects? Is individual teaching rather than class teaching necessary? Is it possible to provide satisfactory projects for all the subject matter of home economics? Can continuity of subject matter be secured more easily by the systematic use of concrete topics alternating with projects than by a continuous use of projects? Should projects be used more extensively in vocational courses than in non-vocational courses?

In some schools, school projects of varying degrees of complexity are used in different courses. School projects are those that are planned and carried out by groups of students or the whole class working together; they are concerned with school or community interests, rather than with the family or personal interests that characterize the home project. The following outline illustrates the types of problems that are often treated as school projects in elementary and secondary school home economics courses:

1. The making of supplies or equipment to be used in school activities.
 - a. Serving meals for special groups or the school lunch.
 - b. Entertaining special groups in the school or visitors.
 - c. Making costumes for plays.
 - d. Making furnishings for classrooms, curtains, etc.
 - e. Making exhibit material for school use.
2. The making of supplies for individuals, institutional groups, or community enterprises.
 - a. Preparation of clothing or food for a charitable purpose: relief associations, Red Cross, Christmas baskets, etc.
 - b. Preparation of exhibit material for community exhibits: food shows and demonstrations, clothing budget and textile exhibits, etc.

3. Investigations and reports of community activities that affect the living conditions of the home.
 - a. Control and supervision of food supplies, housing, etc.
 - b. Work of the city departments: health, streets and alleys, etc.
4. School activities.
 - a. Managing the lunchroom.
 - b. Maintaining a shop for the sale of products produced by students.
 - c. Managing a practice house and similar extensive problems.

Home projects are steadily assuming greater importance in home economics courses, and teachers are gradually working out the types of problems that can be used effectively as home projects. Since the methods of using home projects is the problem that is of greatest interest to home economics teachers, this topic will be discussed more fully in the next chapter.

Length of a Course as Affecting the Selection of Subject Matter. An elementary or secondary school course in natural science, mathematics, history, home economics, or other subjects may cover several years' work, or it may be offered for a single year or part of a year. The subject matter that may be considered under any of these general names is so varied that for purposes of instruction certain aspects of the subject are organized into teaching units of a year's or a half year's work. The most logical basis for the selection of subject matter for a single course is along the natural divisions of the subject. In home economics, this would mean to offer courses in foods, clothing, household management, etc. While these divisions of subject matter are made on the basis of grouping closely related material, such divisions are not the only ones that are used in elementary and secondary school courses. Chemistry, physics, and biology are accepted divisions of natural science, as are arithmetic, algebra, and geometry of mathe-

matics; yet we are increasingly finding science courses that contain facts and principles from the different divisions of natural science organized into a coherent course, and mathematics courses in which problems from arithmetic, algebra, and geometry are brought together.

If the purpose of a course is to give students command of a particular branch of knowledge, the grouping together of all the facts, principles, and problems relating to that division of subject matter is probably the most satisfactory plan. Such a plan presupposes that a student's school life will be long enough so that he will have an opportunity to include some work in each of the divisions of a given subject. To offer to a student a single course in food preparation as her only work in home economics, or a single course in physiology as her only science course, is to give her a very limited interpretation of home economics and natural science. The introductory or "general" course fills this need. The topics found in most general science courses are concrete problems in the explanation of which biology, chemistry, physics, and the earth sciences may all contribute; economics, sociology, and political science may all be called upon to explain the topics of a social problem or community civics course. The general home economics course should be made on a similar plan.

The field of home economics is so varied and includes so many different aspects of each division of subject matter that the selection of material for an individual course offers an opportunity for great variety in interpretation. The following schematic definition illustrates this point. Home economics includes:

social	} aspects of	{	food: selection, preparation, use
economic			clothing: selection, preparation, use
scientific			shelter: selection, preparation, use
æsthetic			household management
			the family and care of children

In the main, home economics teachers organize their individual courses around the three main divisions of subject matter: food, clothing, shelter. In elementary classes, household management and care of children are often included as a part of the course in shelter. In the secondary school, a more complete subdivision of subject matter is possible, and we find courses in cooking (food preparation), dietaries (use of food), marketing (selection of food), sewing and dressmaking (clothing preparation), textiles (selection of clothing and use), costume design (selection and use), house decoration, house planning, household management, care of children, etc.

When a student is required to take or may elect a number of courses in home economics, it is comparatively simple to organize effective courses. A more difficult problem is the organization of the short course. With a single course in foods, should we teach food preparation with incidental work in food selection and use, or should we teach food selection, making the cooking secondary? Furthermore, should we emphasize the scientific aspects of food work and subordinate the economic aspects, or should we reverse the order, or make the two equally important? A survey of food text-books shows that in the conventional course, food preparation is the basis, and that the scientific aspect dominates. The universal need for knowledge of food selection is suggestive of the necessity of organizing more of our courses with emphasis on selection rather than preparation.

The general home economics course. The selection of subject matter for a general home economics course offers even a more difficult problem than the selection of topics for a single course in foods or clothing. From the preceding discussions, it is evident that such a course should have the following characteristics: it should consist of a study of concrete problems that have meaning and interest

to the group; the topics of the course should be closely enough related so that the principles and facts that are considered in each one will build upon the work of the preceding topics; and it should include material from many aspects of home economics, in order to give students deeper and fuller insight into home interests, problems, and activities. The selection of topics for a general home economics course admits many different interpretations, and the content of these courses varies as greatly as does the content of different general science and general mathematics courses.

The least effective course is one which consists of an unrelated and elementary study of each division of the subject matter of home economics, foods, clothing, etc. The most satisfactory courses are those that have a central, unifying idea which is carried through the study of each topic. Health is so vital a factor in normal family life that the relation of household activities to the maintenance of the health of the family might serve as the basis for the selection of the topics for a coherent general course. A course based on the study of the social and economic problems involved in household activities, illustrates coherence secured by emphasizing a particular aspect of each of the divisions of the subject.¹

Unit courses. Because of the particular needs of continuation and extension work, home economics teachers have adopted for these classes a form of organization known as the "unit course." This is a short course that consists usually of a single concrete topic. The advantages of this type of course are: that as each topic is a complete unit in itself, it is possible to offer students wide choice of courses which will give them an opportunity to find just the type of work that they need; and that, since each course requires only a short time for its completion, students do not have

¹Note. A detailed outline of such a course is given in the appendix.

to undertake an extensive course, and new courses can be started at fairly frequent intervals.

In outlining unit courses, there are two points that should be noted particularly. First, these courses should be so planned that the experience and the special needs of the group are made the basis of the selection of subject matter. If a short course is to have any real meaning, it must engage the interest of the members of the class and secure their coöperation in the study of problems. In a class that meets only a few times, with several days between each class period, effective work can be done only when the class work is live and real enough to stimulate the students to carry the class teaching into their daily work or daily living. This means that the individual experience of the students must enter into all class problems.

Second, it is most important that courses should be so graded that students may be able to secure not only work suited to their stage of progress, but also a sequence in courses that will give them, progressively, more advanced work. The teachers of part-time classes must see that their courses have educational as well as practical value.

PROBLEMS

1. How would the needs of the girls affect your selection of subject matter for a food course given to the following groups: a class in a private school for girls, a high school class taking a commercial course, a group of club girls in a settlement?

2. From the standpoint of social value, criticize or explain the use of the following problems or topics:

- a. In a seventh grade food course, 36 lessons: a lesson on jelly-making and one on popovers.
- b. In a seventh grade sewing course: the making of an overhand patch.

- C. A. McMurry. Teaching by Projects, Chapters I, II, and III. Macmillan Co.
- S. C. Parker. Methods of Teaching in High Schools, Chapter IV. Ginn & Co.
- D. Snedden. Vocational Education, pages 130-137, 561-565. Macmillan Co.
- D. Snedden. Problems of Educational Readjustment, Chapter II. Houghton Mifflin Co.
- Home Economics in American Schools. Supplementary Educational Monograph, Vol. II, No. 6. Chicago: Department of Education, University of Chicago, 1920.

Unit courses and projects for home economics classes

Bulletins of the Home Economics Education Series. Federal Board for Vocational Education.

U. S. Bureau of Education, Bulletin No. 1, 1915.

Vocational Homemaking Education—Illustrated Projects. Edited by D. Snedden. N. Y.: Teachers College, Columbia University.

CHAPTER II

METHODS OF TEACHING IN HOME ECONOMICS CLASSES

OUTLINE OF THE CHAPTER

LABORATORY METHODS.

- Productive laboratory work.
- Laboratory method of studying ideas.
- Exhibits and field trips.
- The selection of laboratory exercises.

OTHER CLASS EXERCISES.

- Lectures and "telling."
- Class discussions.

MOTOR TRAINING.

PROBLEM SOLVING AND PROBLEM FINDING.

- Problems in home economics courses.
- Problem-solving methods.
- Problem finding.
- Use of school and home projects.
- Plans for using home projects and reports.

THE DEVELOPMENT OF APPRECIATION.

METHODS OF TEACHING AS REFLECTED IN TEXT-BOOKS.

- Subject matter texts.
- Laboratory manuals.

A careful observer of home economics teaching in the elementary and secondary schools is conscious that there has been progressive improvement, not only in the greater richness of content and better organization of subject matter, but also in the methods of teaching that are used. This improvement in methods can be seen in many ways: in the use of the home experience of the pupils as well as their school experience as a method of approach to the study of problems; in the use of discussion of problems

as a means of developing purposeful thinking; in the increased use of various forms of graphic illustration; in the use of projects whose purpose is to develop the initiative and the resourcefulness of children; in the use of greater student activity and less teacher activity in class work.

Though we may still see the cooking or sewing lesson that makes no demand upon the class except to follow directions carefully and to carry out the practical assignment as skillfully as possible, we are also seeing increasingly lessons in which the principles underlying the practical work are developed by experiment and class discussion, and the method of cooking the dish or sewing the seam is formulated by the class rather than by the teacher. Teachers are beginning to realize that skill in cooking and sewing, and information about household materials, are not the only objectives of class work in home economics courses, and that the ability to find the underlying problems in a given situation and to analyze and solve these problems, the development of appreciation of values and the power to understand social relationships, are equally valuable objectives. With the broader interpretation of teaching aims has come the equally important realization that only through the careful selection of effective teaching methods can these various objectives be attained.

Laboratory Methods. Because home economics courses deal with concrete materials and practical situations, laboratory methods of teaching are used almost universally in cooking and sewing classes and to a smaller extent in the study of food and clothing selection, household management, and child and family problems. Laboratory methods, as distinct from lecture, recitation, or discussion, imply the use of concrete materials. In the

broadest use of this term¹ any problem in which the discussions and conclusions of the class are based on accurate observation and analysis of concrete situations or materials is a laboratory problem, even though all of the steps involved in the study of the problem may not be carried out in a school laboratory. In this sense, therefore, a class field trip to study the housing conditions in different parts of a city and the selection of good food combinations from an exhibit of cooked foods are laboratory methods of studying housing and food selection topics.

Productive laboratory work. The purpose of laboratory experience is evidently not the same in all home economics classes, for the type of laboratory work differs greatly in different courses. Much of the work that is seen in food and clothing courses is so planned that it serves, primarily, to give students experience in making or producing some practical result, such as cooking certain dishes or making an article of clothing. Laboratory work of this type has as its ultimate objective the acquisition of skill or ability in production. The amount of constructive thinking that is aroused or created by this form of laboratory work varies greatly, for with some problems accurate observation, and ability to analyze conditions and make decisions, are essential elements of carrying through the required practical work successfully, while in other laboratory exercises, especially those in which the acquisition of hand skill is emphasized, such thinking is not stimulated and the activity may be carried on quite mechanically. In the selection of productive laboratory problems it is

¹ Note. In the more restricted use of the term laboratory, laboratory work represents a selected type of experience that admits of an experimental method of study. A laboratory method of teaching cooking, in this case, would mean a technical study of cooking processes as contrasted with a practical method of teaching cooking through the cooking of meals.

important to choose those that necessitate constructive thinking if the greatest educational value is to be secured by these exercises.

Laboratory method of studying ideas. Laboratory exercises that have as their purpose the discovery, verification, or illustration of certain facts, principles, or problems are, also, to be found in home economics courses, just as they are found in other subjects using laboratory methods. Laboratory problems of this type are used rather generally in food courses and to a smaller extent in clothing, house, and household management courses. The value of exercises of this kind will depend upon the degree to which it is necessary to recall and apply previously learned principles, or the extent to which the exercise stimulates the students to see and formulate new principles or new problems. Laboratory work of this type may be in the form of more or less formal experiments, exhibits, demonstrations, etc., or it may include the making of some concrete article or performing some type of productive work. Food courses in which both the experiments and the practical cooking problems are selected because they illustrate or assist in the discovery of the principles of cooking show the use of these two forms.

When practical construction problems are used to illustrate or demonstrate a particular principle there is always danger that, in the student's interest in the productive activity, she will lose sight of the principle which this activity is supposed to illustrate. This is particularly true of practical problems that require a good deal of time for their completion, and, in using such problems, the purpose of the laboratory work should be restated in many cases as being, primarily, for the acquisition of ability to produce. An illustration of this point is seen in the use of garment mak-

ing in a course in garment selection, for the making of the garment has no relation to the main problems under discussion in the course, yet it occupies a large proportion of the time of the class.

That many home economics teachers do not distinguish between these two forms of laboratory work or use them most effectively, is very evident in the organization of courses of study and in laboratory manuals. The pressure of the popular demand that children be given the ability to cook, sew, or clean has been so great that the acquisition of household technics rather than the study of household problems has been the dominating influence in the planning of laboratory work. In a subject such as home economics, in which manual ability must grow along with power to do accurate and constructive thinking, both of these forms of laboratory exercises will be used by the effective teacher.

Exhibits and field trips. Exhibits and field trips are forms of laboratory exercises that are being increasingly used in the schools. To many teachers, an exhibit is a formal use of illustrative material prepared by the teacher which calls for little more than a passive interest on the part of the class. A great deal of the prepared exhibit material used in class work is based on the idea of showing processes or materials that are unusual or difficult to make clear without some form of illustration. Such material is valuable, but it should, more accurately, be called illustrative material, for an exhibit that is to provide laboratory experience must call for some activity on the part of the students themselves. Whether an exhibit is selected and organized by the students, or whether materials from which choices can be made are assembled by the teacher for the use of the class, an exhibit is a most useful form of class exercise, since in the first case it represents the results of

careful planning, weighing of values, and making choices, and in the second case it provides a diversity of suggestions and concrete data for the solution of practical problems that involve the making of choices.

A field trip is a valuable means of showing, in a natural setting, conditions, activities, or objects that have been studied or are to be studied in the classroom, thereby making such study more vital and significant. A field trip may be a class exercise under the personal direction of the teacher, or it may be an assignment for a group or for an individual member of the class. The usual purpose of such special assignments is to secure data to be used in class discussions, or that will be used by the student or group of students in the analysis of a special problem, the final results of which will be reported to the class.

The selection of laboratory exercises. The amount and type of laboratory work that should be used in the study of a topic may vary greatly. The teacher who undertakes to work out her own laboratory manual finds that the selection of laboratory exercises requires as clear an analysis of values as the selection of subject matter. She must see clearly the purpose of the laboratory work that she is planning, and decide whether it is to be used as an end in itself, to give manual experience, or whether it is to be used as a means of arriving at accurate ideas about the topic under discussion. Her next problems are to decide what ideas are the most valuable ones to develop through laboratory experience, and to select the particular exercises that will make these ideas clear and significant, and that, also, will stimulate the thinking of the students.

A comparison of several laboratory manuals for food preparation courses will show a good deal of similarity in laboratory exercises; the same dishes are cooked to illus-

trate certain principles of cooking, and similar experiments are used to discover and demonstrate these principles. In other words, there is quite uniform agreement as to the ideas that should be emphasized by laboratory experience and as to the particular exercises that will develop these ideas most effectively. There is much less agreement as to the laboratory exercises that should be used in the study of household management, food and clothing selection, housewifery and housing courses. Teachers of these subjects are experimenting constantly with different forms of laboratory exercises, and reports of these experiments are appearing gradually at educational conferences and in publications. Many of these experiments illustrate a selection of laboratory exercises adapted to a particular school or a particular situation, and some of them illustrate overemphasis of a minor topic, but all of them show that home economics teachers are increasingly realizing the value of home projects, exhibits, field trips, experiments, and demonstrations as a means of giving clear concepts and accurate data for the study of problems.

The amount of laboratory work that should be used in the study of a given problem depends upon many factors: the maturity of the students; the background of experience which the students bring to the study of the problem from their home life or previous school work; the length of the course and the time schedule; the character of the particular problem and the number of problems that can be analyzed or explained only by laboratory experience; etc. It is just as great a loss to the students to use too much laboratory work as to use too little. The experiments that the students perform perfunctorily because the result is obvious or because its purpose is not clearly seen, the laboratory exercise that is not preceded or followed by

sufficient discussion of the results, or laboratory work that can be done with little thought by the students, illustrate losses in teaching. The teacher who uses laboratory work most successfully selects each exercise because it is necessary to the effective presentation of a problem.

Other Class Exercises. In all courses some type of class work is used to supplement laboratory experience. In those courses in which laboratory work is used as a means of studying ideas, class work and laboratory work are complementary to each other and are given equal emphasis in the planning of the course. When skill in production is the primary objective of laboratory work, there is a marked tendency for teachers to subordinate the discussion of problems and to give greater emphasis and a larger proportion of the time of the course to laboratory work.

The use of separate periods for recitation and laboratory work is of great assistance in maintaining the proper balance between these two types of exercises. The occasional use of a demonstration or a simple experiment during a recitation period or a short discussion on some problem given during the laboratory period may be most valuable, but it is difficult to achieve a satisfactory discussion of problems when the attention of a class is divided between the discussion and laboratory activities. When the time schedule of a school allows double periods for all class meetings in home economics courses, the wise teacher will use a number of these periods for class work and supervised study rather than plan for a laboratory exercise each day.

In making this distinction between laboratory work and class discussion, it is not implied that discussions of problems should not take place during a laboratory period. Free discussion of problems with the teacher or between students is an important part of an effective laboratory

lesson. The teacher, who realizes that a laboratory as well as a recitation room is a place to train students to think, will constantly stimulate discussions by asking questions and by presenting new applications of principles or problems. Such discussions may take place between the teacher and one or two students, or between small groups of students. It is a group exercise and not a class exercise.

Lectures and "telling." A recitation period may be used to test the students' knowledge or ability, to give them information, or, through discussion, to stimulate them to see and solve the difficulties that may be found in every problem. The giving of information through dictation, lecture, or demonstration has taken far too large a proportion of the class time in home economics classes, in the past. In many school systems, home economics courses are designated as unprepared courses. This has made it impossible for the teacher to require her students to secure information outside of the class period, and she has relied upon "telling" as a means of giving the class knowledge of the many facts and principles that are related to the topics under discussion. With the gradual appearance of home economics text-books that are adapted to the needs of elementary and secondary school students, the substitution for this lecture method of assigned readings for use in outside preparation or during a supervised study period has become much more common.

Another condition that has increased the use of dictation or telling is that some teachers of the practical subjects are more concerned with giving their students skill in production rather than power to think. To show a pupil how to do a piece of work is a much quicker and simpler method than to teach her how to think out each step in the process for herself and to modify her methods of

working accordingly, yet it is this very ability to analyze a problem and work out a practical solution that is an essential quality of intelligent workmanship. That a certain amount of time in productive laboratory classes must be spent in giving directions or in demonstrating processes is quite evident; classroom experience must always be selected experience, and it would be distinctly unprofitable for a class to attempt to work out through discussion or experiment all of the technical problems that are to be found in cooking or sewing classes. There seems little excuse, however, for the use of detailed instructions how to make various seams in clothing classes or for the continuous use of ready-made recipes in cooking classes.

Class discussions. The use of the recitation period for class discussion of problems rather than for the giving of information is steadily increasing in home economics classes. A discussion on a subject presupposes some knowledge on the part of the class of some of the facts or principles related to the topic under discussion, and the existence of a particular problem that needs to be solved. The experience of the members of the class, data secured from observation of home or community conditions, information from text-books or previous class or laboratory work, should all be used in the discussion of problems, if they are to become live and vital to a class. Discussions may be concerned with working out the practical problems of the laboratory or with the more theoretical aspects of the topic.

The class discussion may precede or follow the laboratory work. In the first case the purpose of the discussion is to organize any general information about the problem and any experiences of the class that have any bearing upon it, and to raise questions or problems in the minds of the

students that will be solved or answered by their laboratory work. A discussion of this kind prepares the class for laboratory work, and makes it purposeful and intelligent. This method of approach is particularly valuable when a laboratory exercise is used for its illustrative value or to demonstrate the adequacy or inadequacy of some familiar principle or situation. Most of the laboratory work associated with the study of household methods of working is of this type, and in the study of such problems as the following the discussion of household practices should precede the laboratory work: to show the relative efficiency of different cleansing agents; to study arrangement of equipment for various activities; to study the efficiency of various methods of reducing the temperature of different parts of the oven, etc. Students will not only carry out an experiment with enthusiasm when it will prove some closely debated point, but they will also be able to formulate the conditions of the experiment and outline the procedure of the class. When the main discussion of a problem follows the laboratory work, it helps the students to analyze the results of their work, and to compare and test the conclusions or general principles that they have drawn from it. The ability to weigh the data secured in the laboratory, and to draw sound and logical conclusions from it, should be one of the most valuable results of the laboratory study of problems. Class exercises should be so planned that students will see the need of securing accurate data about a problem, of weighing evidence, and of formulating adequate conclusions. The facts found in laboratory work are not ends in themselves, and they must be related to new situations and other experiences of the class in the discussion that follows the laboratory exercise.

Both of these methods of relating laboratory and class work should be used in home economics classes. There is

no "only way" of studying any given problem. Whether the main discussion of a problem should precede or follow laboratory work must depend upon the needs of the class rather than upon any special requirement of the problem itself. Students must learn to form sound conclusions from apparently scattered and slightly related situations, and they must learn to prove the worth or falsity of many accepted principles or conclusions.

Motor Training. The formation of motor habits is one of the definite objectives of home economics teaching. Some degree of skill in manual activities should result from the training given in all food preparation, clothing making, housewifery, and home nursing courses. It is important, therefore, that the most effective methods of securing such skill should be used in these courses, in order to bring students most rapidly to accuracy and facility in performing household activities. Some of the processes of cooking and cleaning require rather simple muscular control, that can be acquired without much time or attention being given to the details of the processes, while most sewing processes and some in cooking and cleaning require such complex movements, that carefully planned and long continued experience in performing them is necessary before a student can become skillful.

With no formal training, the acquisition of skill or knack in doing a piece of work is secured, usually, by repeated trials that are regulated, sometimes consciously and at other times unconsciously, by the success or failure which accompanies each attempt. There may be wide divergence with different people, in the degree of skill that can be attained, in the amount of time or number of trials that are necessary to secure maximum efficiency, in the character of the muscular adjustments that may be made by

each individual, and in the extent to which such adjustments are made, consciously or not.

The problem of motor training is to economize as much as possible the time and effort that must be spent in securing skill. The first step in acquiring good motor habits is to initiate the use of the best positions of working and the most effective movements. This is done, usually, by giving a demonstration of the positions and movements, accompanied by verbal instructions. Possibly, because of the great number and the variety of the activities required in home economics courses, home economics teachers have failed to make a clear analysis of the positions and movements involved in performing most of them, and, as a result, a great deal of the training given in these courses shows no improvement over the wasteful methods seen outside of the classroom. Even hand sewing shows this lack of analysis, in spite of the fact that it is taught in the majority of schools and that it requires highly specialized and complex muscular control.

The second step is to assist the student in modifying her movements until she becomes skillful. This may be done by centering attention on the results of her work, or by centering it upon adjustments in the movements themselves. Both of these methods should be used, and the skillful teacher is one who understands when to use either of them. Unevenness in the spacing of a hemming stitch may be due to failure to judge the distance between stitches, or it may be due to lack of control of the material by the left hand. In the first case, attention should be directed to the appearance of the stitch itself, while, in the other, attention given to the method of using the hands will be more profitable. There are dangers in the over-use of each of these methods of correcting faults in working; emphasis given too exclusively to the results of an activity gives a

student no way of judging her particular difficulties and makes her attempts to modify her movements hit or miss rather than purposeful; and, on the contrary, too much emphasis put on positions and movements may result in a wasteful exaggeration of movements.

Models or scales that show desirable standards of the results of an activity and demonstrations of a skillful performance of a piece of work are extremely valuable in giving students a basis for criticizing the quality of their own work. They should be used at frequent intervals in motor training, in order to make students analyze their difficulties and to stimulate self-correction of faults. Failure to acquire skill may be due, in many cases, to lack of proper standards and, in others, to allowing poor or wrong muscular control to become a habit.

Some degree of speed or facility in doing a piece of work should result from motor training. This means that students must be given an opportunity to repeat an activity enough times so that it is carried beyond the point of conscious adjustments, and becomes fairly automatic. In the desire to give a class variety of experience in several activities, many home economics teachers do not provide sufficient repetition of processes or else plan the repetitions with such long intervals between that the student is unable to carry over the last experience. This situation is seen most often in cooking and housewifery classes. When skill in production is one of the objectives of a course, it is most important that activities using similar movements or similar methods of working should be so grouped or so presented in sequence that the acquisition of motor habits is emphasized.

The use of special assistance in providing repetitions of a process, such as drills or separate training on the elementary movements of a process, is another type of train-

ing that is not usually found in home economics classes. Yet there are many situations where muscular control can be secured much more rapidly and economically, if the attention of the class is centered for a short time upon a particular movement or upon securing facility in some elementary movement.

From the standpoint of economy in learning, it would seem to be most important that motor training in the school should be given under the same conditions as those to be found in the home, in order to prevent loss in skill in transferring the activity from the school to the home. Home economics teachers are beginning to realize this point and they are trying to meet it in two ways: by making the equipment of school laboratories as similar as possible to home equipment in type and arrangement, and by using home projects to secure skill by repetition, rather than by providing extensive repetition of processes in the school.

Though motor training is only one of the factors to be considered in planning a home economics course, it is desirable that comparative difficulty in manipulation should be considered in the selection of the sequence in which practical problems are to be presented to a class. This point has not been recognized in the organization of many courses, especially in sewing courses, where handwork usually precedes machine work, and the selection of the sequence in which stitches are presented to a class and the type of materials on which the sewing is done have often had no relation to the comparative difficulty of the motor control that is involved.

Problem Solving and Problem Finding. If any person stops to analyze when it is that he does his most constructive and effective thinking, he will agree, probably, that it is done when he is trying to solve some definite

problem in the outcome of which he is vitally interested. The need of a problem as a stimulus to thinking is a requirement not only of an adult mind, but equally of a child's mind. Teachers are realizing this, and the value of problems and problem-solving methods of teaching is increasingly emphasized in educational literature. The following quotation¹ illustrates this attitude:

"Possibly the greatest contribution which a teacher can make to the development of thinking upon the part of children is in discovering to them problems which challenge the attention, the solution of which for them is worth while."

Problems in home economics courses. Home economics instruction can be so closely related to the children's home activities and interests, that it is comparatively simple to find problems that will engage the interest of all the members of the class, and to the study of which they can contribute much that is valuable from their home experience. How effectively such problems will be used as teaching material depends upon two points: whether the home economics teacher sees clearly the need of teaching her students to think, and how fully she will make experience in problem solving a definite objective of her teaching. Ability to solve problems can be developed only through experience in the analysis and solution of similar situations. Far too often in home economics classes such ability has been expected to result as a by-product without any attempt being made to plan courses in such a way as would secure the greatest number of problem-solving situations. Teachers have been more concerned with the giving of information about household materials and with the acquisition of manual skill in household activities than with the study of home problems.

¹ G. D. Strayer and N. Norsworthy, "How to Teach," page 121. Macmillan Co.

If any one should attempt to make a complete list of all the problems that need to be solved, or questions to be answered by a homemaker during a stated period, she would be much impressed with the wide range of these problems. They would include: (1) simple practical problems, such as how to do a piece of work, that could be decided after analyzing and comparing two or three possible methods; (2) more complex problems, such as the selection of a piece of furniture, which involve the analysis of art and economic values and social value to the family; (3) those most difficult problems that arise in every home and that involve social relationships within the family or with outside groups—problems of child training, family discipline, recreation, social ideals and standards, activities of the family outside of the home, etc. If home economics courses are to give experience in studying home problems, it is most important that the problems in these courses should show progressive difficulty as students are able to solve more complex problems. Courses must make progressive intellectual demands on students as well as give them manual experiences of progressive difficulty.

Problem-solving methods. The teacher who wishes to emphasize problem solving must not only select vital problems, but she must see also that the problem is so clearly stated that every child understands the characteristics and limitations of the problem. Nothing creates so much inexact thinking as failure to understand the problem. The statement of the problem on which the class is to work should be made at the beginning of the lesson, in order to focus the interest and the thinking of the class from the start.

It is most important, also, that the scope of the problem considered in each lesson should be limited enough that

the class can see real accomplishment as the result of the class exercise. This does not mean that only small problems should be studied, but that in the study of large problems, which need the work of the class through several periods, the work of each period should be defined clearly. In many cases it is of great value to extend the study of a problem through several periods, in order to allow time to secure needed data from observation, reference reading, experiments, or other sources.

The next step in the use of problem-solving methods is to guide the class in the analysis of all the elements entering into the problem. If the study of problems in home economics courses is expected not only to give experience in thinking, but to help students to interpret fundamental home problems, the home and social experience of the class, as well as school experience, must contribute to discussions. In this way the study of a problem becomes many-sided, and students are stimulated to analyze their own experience and its relation to the problem under discussion. This many-sided study of a problem demands a constant consideration by the class of the relevancy or value of the points brought forward by different students, and the testing of opinions and suggestions.

The class study of a problem should result in a clearly formulated statement of a usable solution of the problem, whether the purpose of the problem was to work out the best method of doing a piece of practical work, to find the basic principles involved in some practical situation or activity, or to arrive at an understanding of some social or economic condition or attitude.

The steps of a problem-solving method that are outlined above correspond closely to those used in what is known as an experimental method. An experimental

method implies the use of some objective material to correct or test the hypotheses that are advanced. A problem-solving method, on the contrary, may or may not use objective material, but it requires the same kind of clear, accurate, logical thinking. The teacher who wishes to give her students a scientific attitude toward home problems will use problem-solving methods.

Problem finding. The effective person in any activity or in any social relation is the one who is able to find new problems in any situation, as well as to solve the problems that are evident and pressing; he is unwilling to accept a condition because it is usual or familiar, and is constantly questioning the methods of working or thinking that he finds around him. Problem finding as well as problem solving is an essential element of active mental life and of a trained mind.¹ In most school work the finding and selection of problems has been the teacher's work, and the students have been so busy in the study of teacher-made problems that they have acquired a receptive habit of mind rather than a questioning one.

It is in the development of the initiative and the problem-finding attitude on the part of students that the value of the project lies. One of the requirements of a project, as we have noted before, is that the initiative of the student in an individual project, or of the class in a class project, rather than that of the teacher, should be the basis for the selection of the sub-topics or problems that are considered. This does not mean that the teacher should not assist or make suggestions, but that she should use her suggestions to stimulate the students to discover or formulate the problems for themselves.

Use of school and home projects. There are no special points of class procedure that need to be considered in the

¹ J. Dewey, "How We Think," page 78. Heath & Co.

use of school projects, as the whole class is working together, and any type of class exercise, recitation, discussion, experiment, field trip, etc., that may be needed at any stage in the progress of the project can be planned for easily. In the use of home projects, however, such uniform class needs do not exist. The physical conditions of the home, the standard of living of the family, the family needs and requirements, and the differing abilities of the students may create wide differences in the problems that each member of the class will undertake to solve in carrying out her project. As a result, the most difficult problem that confronts the teacher using home projects is to provide class exercises that will keep home projects effectively related to the school work of the course.

Many home economics teachers feel that any close relation between class work and home projects is impossible or unsatisfactory. They argue that home projects are so individual that they should be carried out entirely outside of the class, and that the supervision and teacher assistance given to the home project should all be done in the girl's own home. While apparently this may constitute the simplest solution of the situation, it presents two difficulties: individual teaching is always more expensive than class or group teaching, and may be less stimulating; extensive home supervision may be a very difficult method to use in some localities and with some groups. Home supervision of projects is most valuable; it gives the teacher an opportunity to see the limitations and opportunities of each home, helps her to understand the needs of her students, creates a close relationship between the teacher and home interests and activities, and makes it possible for the teacher to see the student working under home conditions.

Effective home supervision means that the teacher must make several visits to the home of each member of her

class: a friendly visit to secure the coöperation of the family and to acquire general information as to the standards of the home; one or more visits to supervise the work of the student while carrying out the project; and a final visit to decide upon the credit value of the project. When these visits are repeated for every member of the class, this represents a tremendous amount of time that must be spent by the teacher in individual instruction, and some definite allowance must be made for such visits in planning the teacher's schedule.

In various places, teachers of vocational courses have undertaken to meet this issue in different ways. One plan is to engage the teacher for eleven months' service, and defer all home projects until after the formal school year. This gives the teacher about two months that can be devoted entirely to home supervision of projects. Another plan is to arrange the weekly schedule so that only four days are given to class work and one day is given to home supervision. This plan has the great advantage of allowing home projects to be carried along with general class work.

Because of the amount of time necessary for home supervision, there is great danger that in many classes home projects will not be used, unless, in some way, home visits can be reduced to a minimum. The friendly visit to secure the coöperation of the girl's mother and to get some idea of the standards of the family is of the greatest assistance in the use of home projects. If such a visit could be made to the home of each member of a class, it should be possible to use home projects without further visits to the home. The progress of the student in carrying out the project can be estimated by such means as individual conferences, classroom exercises, school tests, and reports.

Home projects may be individual problems, or they may be group or class problems. The selection of the same

project for the whole class or for a group of students does not mean that the problems that each girl must solve will be alike or that the conditions under which she works will be the same; it is still a real project to each girl.

Plans for using home projects and reports. A home project that is made a class or group problem needs a carefully developed plan that will include a clearly defined co-ordination with the work of the school, and provide for some form of report or test on the results of the work on the project. Several such plans¹ have been worked out for agricultural projects, and they are suggestive of the type of plans needed in home economics. The following outline illustrates a plan for an elementary home project:

Project: Keeping the family silver clean

1. Observe the methods used at home and assist in the process.
2. Class demonstration at school to give school standards and to compare with home methods suggested by the members of the class.
3. Experiment at home to study conditions of work and the advisability of modifying equipment or other factors to meet school standards.
4. Conference with teacher in regard to problems that arise.
5. Class discussions of common problems, experiments to settle disputed points, etc.
6. Report on project and its results.
7. School test.

The requirement of a report on home projects introduces another element for which a clearly outlined plan is needed. A statement of the number of times a job is repeated or of the amount that is accomplished is plainly inadequate, for it gives no idea of how effectively the girl has met the problems or emergencies that may have arisen.

¹ "Home Projects as a Phase of Vocational Agricultural Education." Federal Board of Vocational Education, Bulletin No. 21.

The following points are suggested as the types of information that such a report should embody in the case of the silver cleaning project:

Report on silver cleaning project

1. Conditions of job; improvement that was made in conditions or that might have been made.
2. Tools, equipment, and cleansing agents that were used, and additions to equipment which were advisable. How such tools were used most effectively.
3. Sequence in processes used in the job, and suggested modifications of the sequence.
4. Amount of time spent on the job. Did any increase in speed result from change in methods?
5. Cost of materials used in cleaning, and estimated cost of keeping silver clean if work was performed by paid service.
6. References consulted in study of project.

A project, such as is outlined above, does not require much initiative on the part of the individual student. This is due not so much to the use of a class plan as to the character of the project itself, which is of an elementary type. It is most important that home projects become progressively more difficult as the student develops power and initiative in the analysis and solution of problems. The following types of problems show the possibility of such progressive treatment:

1. Single processes carried through a stated period of time: a definite unit of cleaning—caring for an icebox, cleaning silver; bed making; preparing infant's food, etc.
2. Simple constructive projects, such as designing and making a simple garment.
3. Multiple processes carried through a stated period of time: cleaning of rooms, preparing meals, marketing for the family, purchasing textiles, etc.
4. Advanced constructive projects: making a dress, making a hat, etc.
5. Organization projects: planning the dietary; establishing accounting system for the home; organization of weekly service schedule; purchasing plan for the family, etc.

The Development of Appreciation. In many home economics courses the development of appreciation is as definite an objective as the acquisition of skill or the ability to think clearly. There is, however, far less clear understanding of the methods that should be used to acquire appreciation. Methods of teaching should be based on the psychology of learning, and the educational psychologist has given little assistance to the formulation of effective methods in teaching appreciation. Most of the discussions on appreciation in educational literature are concerned with the development of æsthetic enjoyment, but in a few cases this term is used more broadly to cover also social appreciation, or realization or understanding of social situations.¹

Empirically, most of us realize that fuller appreciation of a thing or a situation grows with greater knowledge and greater experience with it. We realize, also, that narrow or limited experience does not lead necessarily to growth in appreciation of wider issues, and that generalized experience may not lead to appreciation in a specialized field. The person who has read "Macbeth" does not necessarily have appreciation of Shakespeare as a dramatist, and the person with good general art training may not have appreciation of good taste and good design in clothing. Another element that seems to enter into appreciation is a sensation of enjoyment or satisfaction, or a feeling of realizing fundamental values. The person having this sensation, however, may be quite unable to analyze the factors to which it is due. Any training that will focus attention on the characteristics of a thing, situation, or condition so as to lead to discrimination of values, and that at the same time offers so rich and varied an experience that satisfaction in discrimination grows steadily, should lead towards the development of appreciation.

¹G. D. Strayer, "A Brief Course in the Teaching Process," Chapter VII. The Macmillan Co.

The extent to which participation in productive activities is an essential element in the appreciation of the values of concrete materials and situations is one of the problems on which there is much difference of opinion. Skill in production and appreciation are not synonymous, but complementary, and a careful study of their relationship may result in absolute change of some present teaching practices. In all probability, some elementary experience with materials and industrial processes is necessary to realizing the problems of a constructive activity; this does not, however, imply the necessity of giving extended experience. The following quotation¹ expresses a point of view that should be weighed carefully by home economics teachers:

"If it be contended that the most effective way of teaching people, on the one hand, to appreciate painting and pictures, and, on the other hand, to appreciate good music, is to undertake to make them, at least in the early stages, performers in both of these fields, then I insist that the burden of proof rests on those who advocate this procedure to show that it is educationally valid. I suspect that the contention referred to above is merely an assumption not founded at all upon facts of observation or experience. I believe, for example, that it is entirely possible to teach appreciation of good poetry without taking any steps whatever in the direction of teaching young people to write poetry. We endeavor to teach appreciation of the beauty of landscapes without, of course, undertaking to have our pupils shape such landscapes. In the world of more homely affairs, I am convinced that it is worth while to train the taste and discrimination of our young people in order that they may appreciate and value simple and good standards in cooking, dress, and the ordinary paraphernalia of life, but that these ends can be achieved quite independently of any effort to make our pupils dress-makers, cooks, or interior decorators."

Methods of Teaching as Reflected in Text-Books. Text-books illustrate in a concrete form the changes that are constantly taking place in the schools, in the subject matter of courses and in its organization for teaching purposes. The teacher who has developed an effective method

¹ D. Snedden, "Problems of Secondary Education," page 269. Houghton Mifflin Co.

of teaching a particular subject demonstrates her method of presentation in a text-book. The teacher who finds that text material for the topics that the class is studying is not available, or can only be secured from widely separated sources, writes a text-book that presents a specialized selection of subject matter adapted to the needs and capacities of her students. A study of the text-books in any subject, therefore, should show a gradual evolution of improved methods of teaching, and more specialized adaptation of subject matter to the needs of different groups.

Text-books for elementary and secondary school classes in food, clothing, household management, and the house can be classified under two headings: those that consist mainly of text material, but that in many cases contain suggestions of problems and laboratory exercises which may be used in studying the topics; and those that are, primarily, laboratory manuals, including possibly some text material. The amount of space that is given to the text in this last type of book varies greatly; in some cases it is very limited, while in others a fairly adequate exposition of many topics is included.

Subject matter texts. Though the number of subject matter texts for use in home economics courses is steadily increasing, lack of good text material has been one of the most serious handicaps of home economics teaching. This deficiency of material to use for classroom and outside preparation of lessons is much greater in some divisions of the subject than in others. There is a great deal more text material for food courses than for clothing, housing, household management, or family problem courses. There is much information available about food materials and the scientific problems involved in the selection and preparation of foods, but there is little about the economic prob-

lems involved in the purchasing of foods. The teacher of clothing finds an exhaustive treatment of fabric manufacture in several books, but little on the selection of clothing; and the teacher of house problems finds material on house planning, but little on house selection.

One of the greatest weaknesses of most of the text material for home economics subjects has been that in many of these texts a concise statement of facts has been given rather than an explanatory treatment of problems. In many food texts scientific terms are used without any attempt being made to give a comprehensive explanation of them, or clear concepts of the scientific principles that are involved; in household management texts, such complex problems as the organization of the family budget are given a few pages of generalized material without any contributing discussion of the many far-reaching social problems that lie back of the establishment by a family of a standard of living.

Some of the newer home economics text-books not only include text material on topics that are not found in the older texts, but they, also, show a selection and organization of topics adapted to the capacities and interests of children. They are written not only to give information about the materials or problems that are being studied, but to explain the many problems that cannot be answered by the laboratory experience of students and to arouse the interest and stimulate the thinking of the students. The purpose of such a text is more comprehensive than to serve as a reference book; if the topics are selected wisely and are adapted to the needs of the group, it can be used as the basis of a course and the laboratory work of the students can be so organized that it will supplement and expand the text.

The teacher who selects a book emphasizing text material as the basis for the work of her course must see that it fulfills the following conditions: (1) it must show a selection and organization of topics adapted to the needs, maturity, and interests of the students; (2) the material given under each topic should be adequate as well as accurate; (3) it should either present or suggest the main problems in the study of which the students will see the real significance of the subject matter included in the book—that is, it must be adapted to the study of worth-while problems.

Laboratory manuals.—So much of the class time in food and clothing courses is given to laboratory work, that the selection of laboratory problems and the working out of laboratory procedure has been the piece of work that has seemed of greatest importance to home economics teachers. This has resulted in the production of many laboratory manuals of varying degrees of excellence; most of these books, however, include text material, and they are planned evidently to serve as the sole text-book of the class rather than to serve merely as a laboratory manual.

There are two types of material to be found in laboratory manuals for food and clothing courses: (1) detailed directions how to do the practical work, such as directions for making seams, plackets, etc., in sewing manuals, and recipes in food manuals; and (2) outlines of the experiments and other exercises to be used in the study of the problems of the course. A laboratory manual that consists mainly of directions for carrying out the practical work or for performing experiments is valuable only as a means of saving work for the teacher, who otherwise would have to provide such information in another form; in sewing classes, such directions are usually given by demon-

strations and the sewing manual is used mainly for reference, while in cooking classes directions may be dictated by the teacher, written on the board to be copied by the class, or given to the class on mimeographed sheets, the last being the most effective method.

The food teacher that is satisfied with a recipe book for a laboratory manual, and the clothing teacher that is satisfied with detailed direction for making different garments, fail to appreciate that the primary purpose of laboratory work is to give objective experience that will assist in the realization and understanding of problems. If laboratory work is to be used as a means of studying problems, the most effective laboratory manual is one which outlines the basic problems under each topic that is being studied, and suggests the experiments, demonstrations, projects, exhibits, or investigations that can be used in the study of these problems. It should include, also, enough questions about the problems to stimulate intelligent and purposeful laboratory work on the part of the students.

For food preparation courses, there are a few effective laboratory manuals on the market. One of the greatest needs of home economics teachers, however, is for laboratory manuals for courses in food selection, clothing selection, house selection and furnishing, housewifery and household management. Laboratory manuals are in great demand not only because of their value in class work, but because they present a method of approach to the study of a subject. The inexperienced teacher sees in the laboratory manual an answer not only to the question, "What to teach?" but also to the equally difficult question, "How to teach?"

The attempt to combine laboratory exercises and text material in one book usually results in the subordination of

the text material. Another disadvantage of this plan is that it gives little opportunity for the teacher to control her method of approach to the study of a topic. In some books, laboratory exercises merely illustrate or demonstrate the principles that are discussed in the preceding text material, while in others the study of every topic is approached through laboratory experience. The separation of text material and the laboratory manual makes it possible for a teacher to select her own method of relating laboratory work and discussion.

A still more inflexible arrangement of subject matter is to be found in several of the food texts. This is the division of the material into lesson assignments. Books of this type may be of assistance to the inexperienced teacher in giving some idea of the possible achievement of a class in a single laboratory or recitation period, but they are most difficult to use as a class text unless the purpose of the course and the conditions under which the class is conducted are similar to those that governed the writing of the text-book. Another disadvantage of this form of text is that effective teaching is often subordinated to covering the amount of material that is outlined in a given lesson.

The prospective home economics teacher should make a thorough study¹ of the text-books that are available in her own subject, and of the reference material in her own and related subjects that should be used by her classes. She should learn to analyze not only the excellence of a given text-book, but its adaptability to the needs of different

¹ "Home Economics in American Schools." Supplementary Educational Monograph, Vol. II, No. 6. Chicago: Department of Education, University of Chicago, 1920. This study presents a definite method of evaluating the content of text-books. The results of this study are most suggestive, whether the conclusions drawn from them seem too sweeping or not.

groups. From the preceding discussions on the selection and organization of subject matter, it is quite evident that a large number of the text-books that are available at the present time can be used only as reference material by the teacher who sees the necessity of adapting her subject matter to the capacities and interests of her classes. It is evident, also, that few text-books are so planned that they can serve as the basis of a course for the teacher who is interested in problem-solving methods.

PROBLEMS

1. Make a list of the main problems that you think would be interesting to a group of tenth grade girls studying the general topic of clothing selection. Make out a similar list for a seventh grade class. Explain your reasons for any differences in these problems.
2. Outline some laboratory exercises that might be used in the study of house selection.
3. From the standpoint of motor training, explain the disadvantages of teaching the making of several hand stitches on a piece of muslin before starting work on an article. How advisable is it to have a class become fairly skillful in using one stitch on various materials before attempting to teach more difficult stitches?
4. Observe a cooking class and analyze the effectiveness of the motor training that has been given. Outline a plan for this class that will provide the best conditions for increasing skill.
5. Would you make any distinction in the use of the terms problem-solving method and scientific method?
6. Compare, as to the type of laboratory work and the relative emphasis given to practical problems, a good

food laboratory manual with manuals for general science, chemistry, biology, or physics courses.

7. From the standpoint of good selection and organization of subject matter, what text-books would you recommend for the following courses and how would you use each of them?
- (a) An elementary school food course in a large city.
 - (b) A food selection course in an elementary school.
 - (c) A general home economics course in the ninth grade.
 - (d) A food preparation course in the ninth grade.
 - (e) A food selection course in the ninth grade.
 - (f) A clothing selection course in the ninth grade.

Supplementary References

- J. Dewey. *How We Think*, especially Chapters IV, VI, and VII. D. C. Heath & Co.
- L. B. Earhardt. *Types of Teaching*, Chapter X. Houghton Mifflin Co.
- F. N. Freeman. *The Psychology of the Common Branches*, Chapter II. Houghton Mifflin Co.
- C. H. Judd. *Psychology of High School Subjects*, Chapters XII, XIV, XV. Ginn & Co.
- S. C. Parker. *Methods of Teaching in High Schools*. Ginn & Co.
- G. D. Strayer. *A Brief Course in the Teaching Process*, Chapter VII. Macmillan Co.
- G. D. Strayer and N. L. Engelhardt. *The Class Room Teacher*, Chapter V. American Book Co.
- E. L. Thorndike, *Principles of Teaching*, Chapters X and XIV. A. G. Seiler.

CHAPTER III

FOOD AND ITS PREPARATION

OUTLINE OF THE CHAPTER

FOOD PRODUCTS.

PRINCIPLES OF COOKING.

EXPERIMENTS IN FOOD COURSES.

General experiments.

Composition experiments.

Experiments on methods of cooking.

Methods of using experiments.

Relation of experiments and practical work.

DEMONSTRATIONS, EXHIBITS, AND FIELD TRIPS.

THE PRACTICAL WORK IN COOKING CLASSES.

Skill in cooking.

Routine activities.

PRODUCTIVE WORK IN COOKING CLASSES.

Order work.

The school lunch.

The lunchroom as a cooking laboratory.

THE INFLUENCE OF COMMUNITY STANDARDS ON FOOD PREPARATION COURSES.

A distinction has been drawn between food preparation and food selection in some of the discussions in the preceding chapters. In actual practice, food preparation courses may include material that is more accurately related to the choice of foods than to their preparation, for discussions of such problems as food manufacture, marketing, the nutritive value and use of foods, etc., are found almost universally in these courses. With the exception of some work on dietaries, these problems are seldom made main topics in food preparation courses; they are discussed incidentally as each type of food material is studied, and constitute the background of related material that is grouped around the main topic, preparing the

food. In spite of this incidental material in food selection found in food preparation courses and of the food preparation problems used in food selection courses, these two types of courses show a great contrast, both in the character of the material that they contain and in the methods that are used in teaching them.

Food preparation courses consist, primarily, of the study of food materials and the principles underlying their cooking, and of selected experience in the cooking of foods. The purpose is to give students understanding of food materials and of cooking processes, and some skill in the preparation of foods.

Food Products. The general term food products, as used here, includes all material on the sources of food supplies, their cultivation and manufacture, their preparation for the market, the grades and qualities found in the markets, and their care and storage.

Food production problems may be emphasized in some food preparation courses and not included in others. An illustration of this is seen in the use of material on the geographical distribution of food supplies. In a few elementary and secondary schools, where correlation with commercial geography is attempted, this problem has been studied in the food courses; in most schools it has not been given, except in an occasional intensive marketing course. In the study of food conservation during the war, the importance of knowledge of the distribution of the world's food supply was so great that we have accumulated much interesting material on this subject, adapted to elementary and secondary school groups. Such material has far greater significance in a study of food costs and market prices than it has in food preparation courses, and its logical place is with other purchasing problems.

The manufacture of food materials has a closer relation to food preparation courses, since many of the food materials used in cooking have gone through some process of cooking before they are purchased. Such processes often affect the preparation of foods, as is seen in the greater amount of water and longer cooking required for oatmeal than is required for rolled oats. One of the chief difficulties has been the lack of accurate information in regard to commercial processes and the limited amount of illustrative material. This has resulted in the over-emphasis of the few processes for which illustrative material was available. The relation of the manufacturing process to the different market grades and varieties of a food is the most significant part of this topic, and the study of a manufacturing process has little value unless it results in more intelligent choice of foods.

The study of the storage and the adulteration of foods and of the standards of quality in different food materials has so much practical value that it is usually included in food preparation courses. If these topics are to have real meaning to the class, exhibits and laboratory experience in grading foods should supplement all discussions. The relative values of package and bulk goods, the relation of appearance, flavor, and nutritive value to cost in canned goods, the relation of price to the proportion of waste in different grades of fruit, vegetables, and meat, the relative value of weight or measure in buying different commodities, are all problems that require laboratory experience in order to secure accurate information of values in food materials.

A study of quality will always include some consideration of substitution and adulteration. Intelligent demand for quality cannot be secured, however, by placing empha-

sis on food adulteration. The study of pure food laws and food ordinances is rather perfunctory in many of our courses. To make this material vital, it must consist of a study of concrete situations. The aspects of food control that have the most immediate interest to the housekeeper are the local regulations affecting the sanitary care of foods in markets and public eating places, accurate measures, etc. A visit with a food inspector or personal investigation in various stores as to the extent of use of such sanitary measures as screening, covering exhibits, or protection of food from handling will be most valuable in creating an interest and demand for better food care.

Principles of Cooking. The study of the principles of cooking is the main theoretical work in food preparation courses. Experimental work is used to emphasize or isolate the applications of these principles, and methods of cooking and preparing food materials are based on principles of cooking, yet there is little formulation of these principles in food text-books. One of the reasons for this has been the rather late development of the scientific study of cooking processes. Such studies are being carried on in the experimental food courses in colleges and universities, and the results are gradually appearing in print.

“Principles of cooking” is a vague term to many home economics teachers, as is easily seen if a group of teachers is asked to formulate the principles of cooking vegetables, meats, cereals, or any other food materials. The experience of the writer has been that teachers will express principles in terms of methods of cooking. When they are asked to formulate the principles of cooking vegetables, such statements as the following are given: “Vegetables should be cooked in boiling salted water”; “Delicate flavored vegetables should be cooked in a small amount of water or

they may be steamed"; "The cover should be left off of the saucepan to retain the green color of vegetables." These are all statements of methods of procedure and not of principles on which such procedure is based. Principles of vegetable cooking must be expressed in terms of the effect of different degrees of moist heat on cellulose, the relation of surface exposure and solubility of constituents to loss in nutritive value and flavor, etc.

Many of the explanations of the reasons for using certain methods are comparatively simple, while some require extensive knowledge of chemistry, biology, or physics. How far such explanations or study of principles should be attempted in elementary and secondary school work is one of the main problems in teaching food preparation. Should we teach cooking methods in elementary courses, and discuss only those principles which affect the cooking of the main constituents of the food, such as cellulose, starch, connective tissue, protein, etc.? What principles of cooking may be further developed in secondary school classes? To what extent should the secondary school student be expected to select her own method of cooking? Are experimental cooking problems advisable for secondary school students? Can such principles of cooking as those of cake and jelly-making, for example, be taught without experimental cooking? These are some of the questions that a clearer formulation of the principles of cooking foods will help to answer.

Almost every cooking process involves chemical or physical changes of some kind, and any adequate study of the principles of cooking must include a study of such changes. The extent to which the discussion of general science problems should be undertaken in food courses, and the amount of correlation with science courses that is desirable, will be discussed in Chapter XII.

Any discussion of principles of cooking, immediately raises the question of using recipes in school work. A recipe is a rule of procedure and should embody the best practices for producing a certain result. Recipes not only define the proportions of ingredients that are necessary for flavor and consistency, but they also outline methods of combining ingredients. Recipes may be given to a class as a rule without any attempt at explanations, or they may be used as a standard for comparison with the recipe that has been built up, by discussion in the class, from the students' knowledge of principles of cooking. This last method of using recipes is the most desirable one. A comparative study of the recipes of different cook-books and of those used in the homes of the girls is a valuable problem, and it will bring out many points in technic or variations in flavor that may be most useful. Such a study requires some knowledge of principles of cooking and should lead to independent and intelligent use of recipes, if the basis for the variations in them is clearly understood.

Experiments in Food Courses. The term experiment as used here is confined to exercises which aim at the discovery or proof of some principle or fact or the securing of data. The application of a principle in the making of a certain dish will be called a practical exercise. Some food texts use the name experiment for both of these. If, however, a practical cooking problem is used as a means of studying the effects of different methods of preparation or of varying ingredients, it assumes the characteristics of an experiment.

The amount of experimental work included in a course is influenced largely by the value which the teacher places upon experimental methods of teaching. A few experiments are included in nearly all food courses, and in some,

the major part of the laboratory work is experimental in character. The method of cooking which will be selected for a given food will depend upon its composition and the effect of the different cooking processes upon it. If students can be given knowledge of these basic facts and principles through experiments, the practical work becomes a problem of applying these principles and facts. Such a method of studying food preparation emphasizes problem solving and the application of principles.

Even in courses in which experimental methods are not emphasized, there is general use of experiments that illustrate or demonstrate certain facts of composition or effects of cooking that cannot be readily observed during the cooking process, and knowledge of which is essential to intelligent work. For example, a realization of the character of gluten, almost essential to understanding the leavening of flour mixtures, is most difficult to secure without the gluten ball experiment. The conditions for bacterial growth and the effect of heat on gas production from baking powders are other problems more effectively taught by experiments. Such experiments might be called essential experiments; their number is not necessarily large, but they should be found in all courses.

Some of the experiments found in food courses are used primarily to emphasize or create interest in a significant problem, for it is evident that many of the facts of composition or principles of cooking that we demonstrate or discover through experiments can be observed easily during the cooking process. We may perform a formal experiment to show the casein, fat, and water content of milk, or we can observe these constituents during the preparation of cottage cheese or rennet custard. The iodine test, as used in many elementary school courses, is an illustration

of an experiment to increase interest, for the statement that potatoes contain starch is as readily accepted by the children, as the fact that the color change is produced in the presence of starch. In more advanced work, the iodine test is used to secure an accurate answer to a scientific inquiry rather than for interest.

General experiments. In order more easily to select experiments for particular courses, they may be divided into three classes: (1) general experiments; (2) experiments to show the composition of foods; (3) experiments to demonstrate principles of cooking. *General* experiments include all experiments on combustion, temperatures, relation of density of liquids to temperature, evaporation of liquids, latent heat, action of acids and carbonates, conditions of bacterial growth, etc. Secondary school food courses in which food preparation is emphasized, and which do not require prerequisite work in the sciences, should include these experiments as a fundamental part of the course, as they are essential to the understanding of the physical, chemical, and biological phenomena that are an integral part of the care and preparation of foods. A few of the experiments included in this group, such as those on bacterial growth, acids and carbonates, etc., may also be included in elementary school courses..

Composition experiments. Composition experiments are of two types: gross composition experiments, which demonstrate the larger constituents of foods, such as are significant in influencing the choice of cooking methods; and detailed composition experiments, which demonstrate the presence of those constituents of a food that affect their nutritive value rather than their cooking. Knowledge of the characteristics and presence of casein in milk is important in cooking, whereas, the presence of sugar,

while of great importance in infant feeding, makes practically no difference in the selection of methods of cooking. In the cooking of potatoes, a student is more intelligent if she realizes their cellulose, starch, and water content; but the presence of protein in no way influences her method of cooking. Similar illustrations could be given for all other types of food materials. Composition experiments in cooking classes are seldom quantitative; although in a few cases, the relative bulk of the main constituents of a food is so easily seen that such quantitative aspects are noted.

In the use of composition experiments, two different methods may be seen: (1) to test a food for a known constituent, using only those foods that illustrate the point clearly—the proof method; (2) to test a food for all possible constituents—the discovery method. The difficulty of securing exact conditions which will make it possible to demonstrate the presence of minute quantities of a constituent of a given food makes this second method an extremely unreliable one unless a class is well trained in experimental technic.

Experiments on methods of cooking. Experiments to illustrate principles of cooking and to study the effect of different methods of cooking are emphasized in those courses in which the recipes are developed by the class. Experiments in cooking methods that require the comparison of results secured by varying the method of cooking or by varying an ingredient in a mixture, are better adapted to advanced classes. A few of these comparative experiments, such as those to study the different methods of soft cooking eggs, different methods of making tea and coffee, the relative thickening power of different flours and similar problems, are used even in elementary school courses.

Comparative experimental work in flour mixtures and in similar complex mixtures requires a clearly defined standard for the finished product in order that the student may judge the relative values of the different results. This is an impossible condition for beginning classes.

A method of using comparative cooking experiments that is often seen is to assign a single method of cooking to each member of a group of three or four students, the group comparing their results at the completion of the experiment. Such a plan will often lead to the result observed in an elementary school class, where a child was seen busily boiling tea for a luncheon to be served by the class. On being questioned as to the reason for using that method, she explained that it was the way she had been told to prepare tea in a lesson several weeks before. The danger of initiating wrong habits in beginning courses through the use of comparative experiments is very great, for even when each child carries out all the methods there is a loss because no clearly recalled definite habit of work has been started. Furthermore, comparative experiments should be used only when children are carefully trained to observe accurately.

Methods of using experiments. Experiments may be performed as a demonstration by the teacher or as an individual exercise by the students. An experiment successfully carried out by the students themselves is usually more vivid and impressive than one demonstrated to the class. There are many cases, however, when a class experiment offers many advantages over individual experimentation. In those experiments in which there is possibility of widely diverging results, or that need special attention given to certain points, the class experiment is most valuable. Experiments requiring careful noting of consistency or of

color, on the contrary, are far more effective as individual experiments. A class experiment may often be performed in the middle of a practical exercise to illustrate an immediate issue when individual experiments would be impossible. There is need of both of these methods in food courses.

In some courses, experiments are used rather informally to illustrate some particular points, while, in others, they are made a part of formal instruction, and are carefully recorded in note-books corrected by the instructor. Recording an experiment and formulating the conclusions reached by it, is one method of assuring a complete piece of work and uniform agreement by the members of the class as to the results. If all experiments are followed by a carefully developed discussion and by consistent demonstration of the applications of the points developed, there is less need for a formal and often unused record.

There is much difference of opinion among laboratory teachers as to the value of note-book work. There is nothing so tiresome as the recording of obvious or familiar facts in a note-book that is never actually used by the students, yet there is nothing so valuable as a habit of making accurate, usable records of the data and results of a piece of work. If note-books are to be made a feature of experimental laboratory work, teachers must see that unnecessary writing of directions is eliminated by the use of mimeographed directions and that students learn to make usable, well-arranged notes, not merely formal records.

Relation of experiments and practical work. Though occasionally experiments may be used incidentally during the practical work, they are usually performed before or after the cooking problem. In the first case, the experiment is used to study the facts of composition or principles of

cooking that are to be used in the practical problem. When experiments follow the practical work, their purpose is to explain or clarify the procedure that has been used in the cooking, and to emphasize the principles that were applied. The great advantage of this last plan is that the students have a background of practical experience before they perform the experiment which will give it greater meaning; because of this, this method is most valuable for beginning courses.

Demonstrations, Exhibits, and Field Trips. Demonstrations, exhibits, and field trips are all illustrative exercises. Demonstrations are used in food preparation classes to illustrate the technic of manipulative processes, such as stirring, kneading, combining ingredients, use of rolling-pin, cutting instruments and other equipment, etc., and to show effective methods of working, such as use of fewest possible movements, selection of tools for fitness to purpose, arrangement of equipment and materials, etc. The value of a demonstration lies in the tendency of the class to reproduce or imitate the movements and method of working used by the demonstrator. This is the first step in the teaching of good motor habits. As was suggested in the previous discussion of motor training, a demonstration that is given to initiate effective manipulation should include an analysis of the movements that are used in order to make the practice of the class purposive as well as imitative.

Class demonstrations of cooking processes are usually given before the students start a new piece of work. The teacher who is interested in the acquisition of good motor habits, however, will not be satisfied with a single demonstration; she will see that it is repeated for different groups or for the whole class, until all of the students are using

good methods of working. The use of the most skillful members of the class as demonstrators is often valuable as a means of stimulating interest in technic. Demonstrations are particularly valuable and necessary in elementary courses where the foundation is made for good working habits.

Exhibits are a valuable means of comparing qualities or characteristics of food materials or of prepared foods. An exhibit of finished products, at the end of a cooking lesson, gives an opportunity for illustrating the effects of poor methods or mistakes, as well as to provide a standard for an acceptable product. Because of limited time many such exhibits are perfunctory and ineffective. An exhibit should be as distinctly a teaching exercise as is an experiment, and it requires a definite allowance of time for study and discussion. In some cases, a laboratory lesson based on an exhibit of foods prepared by the class may be far more effective than an additional cooking lesson.

Field trips are not used as extensively in food preparation courses as in household management, house decoration, or costume design courses, but, wherever marketing lessons are included, a few trips are often used. Field trips to study commercial methods of preparing foods are very useful when a study of effective time-saving methods is being made. Such a study should include observation of school, home, and commercial methods. The experience of most teachers has been that field trips are of value in proportion to the amount of preparation for the trip that has been given. Unless the individual members of the class have a clear idea of the things for which they are to look, the distraction of the new experiences will result in vague and poorly related observation, and much energy of the teacher is wasted in trying to give instruction under unfavorable conditions.

The Practical Work in Cooking Classes. Laboratory experience in preparing food materials is the major activity in food courses. In many courses, a cooking problem is included in every meeting of the class, which means that from 50 to 70 minutes of the 90-minute period is taken up in getting out supplies, cooking, and cleaning and putting away equipment; on some days, the entire period is given to the cooking problem. In other courses, laboratory cooking exercises are found only on alternate days, the intervening days being spent in discussion or recitation. The greater amount of time spent on the practical cooking problems, than on experiments, exhibits, and discussions, is the distinguishing characteristic of those courses which emphasize skill and experience in handling food materials. When skill in cooking is subordinated to study of the principles of food preparation, the time spent in discussions, experiments, and exhibits is increased and the cooking exercise is reduced to the position of an illustrative exercise. The aim of this second course would be to make the students intelligent about cooking problems without attempting to give them the extensive experience that is necessary to secure skill in cooking.

Skill in cooking. The emphasis and time spent on the acquisition of skill should vary with the aim of a food course. In actual practice, however, the difference in emphasis seems to be more often decided by the interest or lack of interest in technical skill felt by the teacher. To plan the work of a cooking class so that the students really acquire skill is one of the most difficult problems of the teacher of foods. Not only must she initiate the use of good methods of working, but she must, also, provide for enough repetitions of each problem so that the activity becomes a habit. With many classes the problem is further

complicated by the need of breaking up the bad habits that have been already acquired in the home.

We give excellent training in most food courses in the performance of single processes, but the students may leave our classes with no ability to prepare foods rapidly and without waste motions. It is easily seen that such habits can only result from extended practice which in most courses cannot be given in class time. We cannot dismiss the problem on this plea, however, since practice is only one element in securing this skill. By the use of home projects, time can be secured outside of school for practice, if class time is given to an analysis of different practices and to a critical study of the results that can be secured through a modification in technic. Many of our school methods of working are time consuming and impractical under home conditions, and we give the students no basis for analyzing and selecting the method of work which should be adopted in their home practice. This problem should be presented as a special topic which should include an analysis of labor-saving methods of working, the study of different types of equipment and labor-saving appliances, and the use of home projects that will emphasize time value and effective motions.

The cooking problems in a course are usually selected because of their value in illustrating principles of cooking, and no attention is paid to arranging these problems in such a sequence that cooking processes (broiling, frying, etc.) are repeated until the students acquire skill in using them. If a food course is arranged under such general topics as Carbohydrates, Protein Foods, Milk, Vegetables, etc., each topic may necessitate the preparation of dishes that require quite dissimilar cooking processes. For example, the topic Starch may include the making of such dishes as cocoa,

cream of wheat, fried mush, rice pudding, etc. The technic in the cooking of these dishes is quite different, and there is almost no repetition of processes and accumulation of skill. If skill in cooking is an element to be considered in planning a course, some of the topics should consist of a study of cooking processes. The practical work included under such a topic as Scalloping, Sautéing, or Broiling would give an opportunity for repeated experience with a process, and, at the same time, illustrate the variations necessary for different foods. Skill in the use of a small quantity of fat for browning or sautéing means ability to keep steady heat, to recognize signs of browning, to decide on the amount of fat necessary for browning, and to turn and manipulate the different foods; a series of lessons on batter-cakes, French toast, potato cakes, fried eggs, sautéed fish, or similar problems would give repeated experience in this process and would emphasize skillful handling.

A second type of technic for which special training is needed is the ability to prepare several dishes at one time for serving in a meal. The preparation of one dish at a time is almost essential when a class is learning the technic of a process, or is studying the application of principles, but it is an ineffective method to use when skill in cooking is the aim of a course. Judicious use of a 90-minute laboratory period will make it possible to cook several dishes, if a class is trained to plan their time.

Skill in cooking requires not only good technic in preparing foods, but, also, judgment in combining food materials from the standpoint of flavor, consistency, and appearance, and in the selection of the best methods of preparing each food. As in the study of all selection problems, this means that the class must be given an opportunity to compare a variety of products and to make choices. For

a lesson of this type, a food should be prepared in various ways by the class, but the major part of the class period should be given to a comparison of the different results and to study of the recipes for the same dishes used in the homes of the students. The exhibit and the opportunity which it offers for analysis of essential values, rather than the practical work, is the important element of such a lesson.

A similar method should be used to study flavor. Appreciation of flavors in cooking, as appreciation of good taste in dressing, needs to be developed through study of the principles underlying good combinations, and realization of the wide opportunity for choices. Food habits, with all that they mean in terms of efficient or inefficient nutrition, are so largely influenced by the liking or dislike for a limited number of flavors, that such a study should be emphasized more often than it usually is in food preparation courses.

Routine activities. The laboratory cooking exercise includes not only a cooking problem, but dish-washing, care of equipment and supplies, and cleaning. Good training means that attention should be given to skillful and rapid manipulation, and to careful planning in the use of equipment in order to reduce the cleaning operations to the minimum. In the desire to teach the use of the best equipment, many cooking teachers elaborate their cooking technic until dish-washing becomes a serious problem. Coöperative use of equipment will often save time; good planning will always save time. The expenditure of much time on cleaning is justified by some teachers on the basis that good habits in the care of equipment are as necessary as learning to cook. An essential part of such an argument is that the equipment and methods of cleaning should be those that

represent a good standard for the homes of the girls. Should such training be emphasized in class time or in a carefully planned home project? Should it be given the same attention in a tenth grade course as in a seventh grade course?

Productive Work in Cooking Classes. While the individual portion used in most cooking classes serves admirably to demonstrate processes and principles of cooking, it does not give experience in handling the larger quantities used in the home. Cooking in family size portions can be carried out successfully in the regular school laboratory with some additions of larger equipment. The main difficulty of large quantity cooking is the need of finding some means of disposing of the prepared foods in order to cover the cost of supplies. Various ways of providing for this have been used by different teachers. They can be classified, however, under two types: those that provide for order work from outside the school; those that sell food for consumption within the school.

Order work. The preparation of foods to be used in the homes of the girls or sold to other people, is used in a limited way in some schools, and quite extensively in others that offer special courses in trade cooking or catering. In schools that use order work in a limited way, the putting up of fruits and vegetables and the making of bread and cake products are the types of dishes most often prepared. Where catering courses are offered, order work is much more varied, though it seldom includes the plain foods used in family cooking. Order work gives an opportunity for a study of costs and of accounting that is most valuable, and it assists in unifying school and home standards of cooking. It is difficult to use, however, except in advanced courses.

The school lunch. The sale of food within the school is always associated with the school lunch. Products made in the classroom may be sold in the regular lunchroom; a lunch may be served in the food laboratory to teachers or to other special groups; or the class may work in the lunchroom kitchen and prepare the food sold in the lunchroom. The method to be selected by a teacher should depend upon the value to the students of each of these methods, as well as upon the administrative possibility of relating the lunchroom, which is primarily interested in furnishing food, and the classroom, which is interested in the educational development of the girl.

The disposal of food cooked in the laboratory to the lunchroom is the plan that offers more advantages than any of the others. It requires, however, extremely close coöperation between the food teacher and the manager of the lunchroom. A plan or schedule for each week must be outlined, so that the lunchroom can be sure of receiving certain foods in a definite quantity, at a definite time. This food must be of marketable quality, and prepared in a form that can be handled by the lunchroom. By using this method, it is possible to give a class not only the opportunity to cook larger quantities of food, but, also, to study the standards and cost of commercially prepared foods and the wage value of time spent in preparing them. Unfortunately, there are limitations to the varieties of food that can be contributed to the lunchroom by a class meeting from 8 to 10 A.M. or in the afternoon. In spite of time schedule problems and the difficulty of securing complete coöperation with a department not always intimately associated with the home economics department, the disposal of prepared foods to the lunchroom is one of the most effective methods of developing large quantity cooking.

The serving of luncheon at noon to teachers or other groups is found in many schools. This plan offers similar training to that discussed above, and, in addition, it gives an opportunity for experience in serving. The danger in this plan, as in all plans which involve the supplying of meals, is that in the desire to keep patronage regular, the students will be required to continue meal serving beyond the point at which its educational value begins to diminish. If the serving of meals can be made a special feature that can be started and discontinued at any time, this difficulty can be obviated. Another problem associated with this plan is the necessity of keeping the students during the noon hour to serve and to clean the laboratory; this is too heavy a burden to add regularly to a girl's daily program.

The lunchroom as a cooking laboratory. The use of the lunchroom kitchen as the cooking laboratory is increasing in both elementary and secondary schools. In some schools, this type of work is used only for advanced students; in others, all of the food preparation is taught in this way. There are many arguments for and against the use of the lunchroom kitchen. It is popular with administrative officers on the basis of cost. It offers a practical situation to those who feel that food preparation courses are impractical. If well used, it stimulates resourcefulness, initiative, a feeling of responsibility, and greater interest in food problems. Some of the other methods of using the school lunch which we have been discussing also give these same results without the rather serious loss in educational value that has been observed where the lunchroom kitchen has not been used judiciously.

Where the entire work of the lunchroom is done as class work, it is practically impossible to maintain the educational standards of the food courses. The routine activities and

the repetition of such processes as making cocoa, sandwiches, etc., take so large a proportion of the class time that instruction is subordinated. In those schools where the preparation of the school lunch has been most successful, paid service has been used for washing dishes, cleaning, preparing staple dishes, and similar routine work. Even under these conditions, there are other factors that make this a difficult method of instruction. With the responsibility of having a well-prepared lunch ready to serve at a specified time, the attention and interest of the teacher must be centered on the preparation of the food and not on the thinking of the members of the class. There is always danger, also, that a particular dish will be made by the girl who knows how rather than by the one who needs instruction in making it. Many foods that might be prepared in a classroom are not practical to serve in a lunchroom; this means over-emphasis on the preparation of a few foods. The greatest difficulty with this method, however, is that such teaching emphasizes how to do things without, at the same time, giving equal attention to the reasons for so doing. Even with a special period for the discussion of the theoretical aspects of food preparation, it is difficult to relate theoretical and practical problems because many principles and facts can be illustrated only during the cooking process.

Lunchroom cooking is a valuable form of work where skill in handling food materials and the development of initiative and a sense of responsibility are desirable objectives of a course. It is a problem for advanced students—not for beginners. Even for such classes it needs skillful planning in order to make it a project of maximum benefit to the students. The use of the lunchroom for vocational training of lunchroom assistants is a special problem to be discussed in Chapter XI.

The Influence of Community Standards on Food Preparation Courses. Many of the courses in food preparation seen in elementary and secondary schools illustrate careful planning, good teaching practices, and a comprehensive study of the principles of cooking and their applications, yet the courses fail to achieve their fundamental aim because they are absolutely unrelated to the food preparation problems of the particular group that is receiving instruction.

The selection of the cooking problems to be used in a given course, as was noted before, is generally based on their value in illustrating principles and processes of cooking. This has resulted in the general use of certain dishes which offer the best illustrations of the different principles—popovers to illustrate leavening with water vapor, milk soups to illustrate a thin white sauce mixture, oysters to illustrate albumen cooking in fish, etc. While many of the recipes which are used to illustrate principles or methods of cooking are for foods that are used in many homes, some of them are seldom used in certain communities and in different groups because of high cost, difficulty of preparation, ignorance about many foods, or prejudice against them. Where high cost and difficulty of preparation are the reasons for failure to use a dish in the homes of the girls, there are two courses open to the teacher: to use these impractical dishes because they are the most effective illustrations or to eliminate them and substitute other dishes which, though they may illustrate the principle less well, will have more meaning to the class.

One of the aims of food preparation courses in certain localities is to teach the preparation of foods that are not used generally among the group in order to increase the variety of foods or to encourage greater use of such foods

as milk and vegetables. Such an aim has great social value, but these results can only be secured if the selection of cooking problems and the organization of the course are planned to this end. It is impossible to teach the principles of cooking all types of food and at the same time emphasize the use of special foods. It is extremely difficult to make children or adults adopt a new food or a new method of cooking a food unless they have an opportunity to taste it several times, which would necessitate several repetitions of certain cooking problems. In place of organizing this course around principles and methods of cooking and attempting to teach the cooking of all foods, it should be organized around such concrete topics as: How to use a quart of milk a day in cooking, How to cook vegetables so that we will want them once a day, etc.

The Americanization of foreign groups is one of the big problems of the schools in most of our cities. School instruction which deals with the problems of the home has a unique opportunity to contribute towards making the adjustment between foreign and American standards of living—one phase of the Americanization problem. The experience of people who have worked with foreign groups has been that the only method of modifying their ideas or practices is through an intelligent and sympathetic understanding of their own national customs and persistent attempts to reconcile these customs to life in a modern American city. Food is particularly associated with national customs, and food preparation courses planned for these groups must be specially adapted to their needs. To many teachers, one of the great values of food preparation courses is the opportunity which they offer to teach the children of foreign parents about American foods and American methods of preparation. Undoubtedly some of the teaching about

new foods does carry over into the homes of the children, but food preparation courses that use familiar flavorings and familiar food combinations will accomplish far more.

PROBLEMS

1. Make a list of essential experiments that should be found in all food courses. Would you advise the use of a thermometer in the elementary school? When would you use protein, sugar, and starch tests in secondary school work?
2. Outline the exhibits that you would use in a 72-lesson course in food preparation in the elementary school.
3. Observe at least two laboratory lessons in the elementary school. Note the use of demonstrations. Did they emphasize motor training? Would it have been profitable to increase the number of demonstrations? Should demonstrations be used at the beginning of the hour or may they be used at any time during the lesson?
4. Arrange a series of lessons on the use of the oven requiring a gradual development of skill. What special points in oven control would you develop in each of the lessons?
5. What principles of cooking vegetables, eggs, milk, and fruit would you emphasize in a half-unit food preparation course?
6. Make a plan for a lesson on a study of muffin mixtures.
7. Make a comparative study of three recent text-books. Does the laboratory manual emphasize problem-solving methods? Are they unnecessarily filled with recipes? Does the content under any one topic differ materially in the three books? Is there any attempt at explanation of the application of physics encountered in the cooking processes?
8. Outline the most effective use of the lunchroom in a four-year secondary school course in homemaking.

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CHAPTER IV

FOOD SELECTION

OUTLINE OF THE CHAPTER

TEACHING PROBLEMS.

Laboratory exercises.

QUALITATIVE STUDY OF THE DIETARY.

QUANTITATIVE STUDY OF THE DIETARY.

Quantity in household terms.

Quantity in scientific terms.

Quantity in terms of cost.

MEAL PLANNING.

STUDY OF THE FOOD REQUIREMENTS OF THE FAMILY.

DIET IN DISEASE.

The study of food selection is concerned with knowledge about food materials and their nutritive value and use, and with training judgment in the choice of food. This material may be taught as one of the topics of a food preparation course, as the larger part of a general food course or as the entire content of a food selection or dietary course. In food courses for beginners, especially in those offered in the elementary school, a large proportion of the time is always spent in food preparation problems, even though the teacher is emphasizing selection of foods in the planning of her course and in her choice of cooking problems. The reason for this is that practical cooking maintains interest and at the same time makes it possible for the class to prepare their own exhibit material to be used in planning meals and in studying food needs. In an advanced course, however, practical cooking is much less essential for interest and is only used to furnish illustrative material.

Teaching Problems. The selection of the food of the family by the untrained housekeeper or by an individual dining in lunchrooms or restaurants is based primarily on the liking or dislike for particular foods, upon traditional use of certain dishes for different meals, and upon accustomed use of certain food combinations. Food habits are most intimately related to the social customs of a given group; they vary with nationality, locality, and occupation. Many of the food customs developed by different groups are dietetically sound, while others are inefficient or wasteful. The persistence of the food habits acquired in youth can be observed on every side. The problem of the home economics teacher is not only to give knowledge about foods and to teach standards of selection, but also to interpret these standards in terms of the food habits of her class.

Standards of selection cannot be imposed by advising the disuse of certain foods, or even by emphasizing the value of certain foods. Food selection must be taught through the use of practical problems that will require from the students intelligent analysis of their own food habits and some actual experience in choosing their own meals. This means that experience in choosing foods in the lunchroom and in home projects should be an integral part of the course. A liking for new foods can be cultivated through training in their use in the lunchroom. The value of the school lunchroom in teaching food selection cannot be over-emphasized. It may be made the center for neighborhood teaching of better food habits, or it may be used for laboratory exercises in choosing foods.

Much of the teaching of food selection in the past has been theoretical and unrelated to the type of information and experience needed by the housekeeper or the individual. Knowledge of the number of calories needed per day by the different members of the family or of the percentage

of protein calories they require has little value, unless it can be translated into good habits of selection. Any one who has had extended practice in the calculation of food values appreciates that the interpretation of such quantitative results requires far more exact knowledge of the nutritive values of the individual foods than can be profitably studied in any but senior high school or college classes. Yet the need of instruction in intelligent selection of foods is so great that this material in simplified form should be well taught, not only in the high school, but in the elementary school.

There are two aspects of the teaching of food selection that must be included in all courses: (1) What foods should be selected, which requires a qualitative study of the value of the different foods; (2) How much of each food should be used, which means some quantitative study of the foods needed daily or weekly. It is comparatively simple to teach the qualitative aspects of food selection. The study of the nutritive value of foods is included in even the most elementary courses, and effective methods of teaching this material have been developed in various grades. The quantitative aspect of food selection has been far less effectively taught. We are beginning to see the importance of such teaching, however, and are slowly evolving methods of presentation that will make this material more valuable to the housekeeper or to the individual.

Laboratory exercises. The emphasis given to practical cooking by most food teachers has resulted in failure to recognize the value of other types of laboratory exercises and the need of developing laboratory methods of studying food selection. Since skill in cooking is not an essential element of selection courses, laboratory work is used for its illustrative value or for the opportunity that it gives to make choices rather than to discover or prove principles or to give practical experience in a productive activity.

An exhibit is the most important type of laboratory exercise in all selection courses. Through exhibits students are given an opportunity to visualize in actual food materials, all of the quantitative aspects of good selection, such as the amount of different food materials that are needed daily by an individual or by a family, or the amount of calcium in average servings of common foods; they are valuable, also, to show objectively the relative food value of different foods. To use an exhibit most effectively, enough time must be allowed in order that the class can analyze and compare the important elements of the exhibit, and use it in the solving of some definite problem. This last point should be carefully noted, for unless a student thinks of an exhibit as data to be used in the solution of a problem, her interest will usually be casual and passive. An exhibit showing the iron content of different foods is most interesting and valuable to students who are asked to report on the iron content of their own dietaries or who are planning the diet of a young child.

In many food selection courses, a large proportion of the laboratory work is devoted not to the use of exhibits but to the preparation of exhibit material. When a class is required to weigh out 100-calorie portions of various dishes prepared in class, several laboratory periods may have to be given to learning the details of calculating the amounts and weighing the ingredients. This is a slow process and there is great danger that the students will lose sight of the real purpose of the exercise, which is to secure a clear picture of the relative fuel value of different foods. This is an advanced problem that does not belong in elementary courses. That some time should be spent on the preparation of exhibit material is not only necessary but also desirable, for food exhibits are never permanent, and their arrangement or preparation necessitates intelligent

discrimination and selection. Exhibits are usually made up of measured or weighed portions of uncooked foods and of foods prepared by other cooking classes or in the lunch-room as well as by the food selection class.

The preparation of meals to show standards of selection is another kind of illustrative work found in both elementary and advanced courses. Some teachers make the mistake of combining the teaching of serving with this exercise, and, as a result, there is no time or opportunity to use the meal as an exhibit and to discuss its adequacy from the standpoints of quantity and food value.

Though experiments are not used universally in food selection, many courses include a few composition experiments that serve as the basis of the study of food values.

Qualitative Study of the Dietary. Training in food selection should give students a definite idea of the nutritive value of each type of food used in the dietary and some idea of the relative value of foods. It is not only important to recognize the value of vegetables in the dietary, but if selection is to be made thoroughly intelligent, we must also have some basis for choice between tomatoes and corn, for instance, in planning a meal.

The term food value is used rather vaguely in much of our popular literature and by many home economics teachers; it has been used as though it were synonymous with fuel value. The fuel value of a food is based on its protein, fat, and carbohydrate, and this term cannot be used to include the value of its mineral matter or vitamine content, which are essential elements of food or nutritive value. Everything used for food has a definite intrinsic value in terms of the quality and amount of its protein, its caloric or fuel value, its value for bulk, its mineral content or its value as a protective food. The statement of the food value of the different food materials used in the diet may be a

simple statement of the most significant characteristic of the food or it may be expressed in technical terms in much detail in order to give exact information.

The study of food value and of the composition of foods is usually begun in the first food courses. It is extremely important that the emphasis in elementary work should be on usable facts and clear concepts. There are two practices often used in teaching the composition and nutritive value of foods that illustrate failure to recognize this principle. The comparison of foods on the basis of their percentage composition, while bringing out some interesting facts in regard to the amounts of protein, fat, or carbohydrates in different foods, also tends to emphasize certain other less valuable quantitative aspects. The large percentage of water in fruits and leaf vegetables is the most striking quantitative aspect of their composition, yet their value in minerals, organic acids, and protective quality, quantitatively so small, is so important that their use in the diet is based on these elements. Emphasis on water content merely confuses the issue. The use of negative statements is another practice which emphasizes non-essentials rather than essentials. Many teachers discuss the value of a food as though it were the sole constituent in the diet. The following are a few of the statements that are constantly heard in classrooms: "Meat is rich in protein and fat, but contains no carbohydrates"; "Vegetables have little food (fuel) value"; "Milk contains all the five food principles, but the amount of carbohydrates is low and it should not be used alone by adults."

The act of selecting foods necessitates choosing between different foods. While it is possible to compare any two foods on the basis of their relative fuel value, protein content, or any other element of food value, such comparisons are of significance only when the foods are used inter-

changeably in menus or in a dietary. This point is emphasized in teaching by grouping foods in such a way that those which may be substituted for each other in an adequate diet are placed in a common class. There are several methods of classifying foods, the most commonly adopted one being that used by the Home Economics Office of the Department of Agriculture: Vegetables and Fruits; Protein-Rich Foods; Cereals; Bread and other Bakery Goods; Sweets; Fatty Foods. Teachers should use the type of food classification which will illustrate the points that they wish to emphasize in their teaching; for example, in a locality where emphasis needs to be placed on the use of milk, it would seem desirable to bring this out by the use of a sixth group, Milk and its Products. In elementary classes a clear idea of the foods that should be included in the different groups may be secured by the use of an exhibit arranged by the class.

Food groups are used as the basis of meal planning and for a comparative study of the nutritive value of the different foods included under each group, such as their comparative fuel value, the relative quality of their protein, their ease of digestion, etc. Such a comparative study will bring out many significant points in regard to the food value of individual foods and their use by different members of the family.

Quantitative Study of the Dietary. There are several methods of giving quantitative ideas as to the amount of each food material that should be used by the individual or the family. The simplest method, and the one generally used in the elementary school and in extension courses,¹ is expressed in terms of the number of times a given food should be used or served daily. This method is illustrated by the following statements:

¹Extension leaflet, N. Y. State College of Agriculture. Food Series No. 8. Teachers' College Technical Education Bulletin No. 3.

(a) Milk should be used three times a day by children and at least once a day as a beverage or in a cooked form by adults.

(b) Meat should be served only once a day; it is advisable to use it only four or five times a week.

(c) Meat substitutes should be used for the main dish at least two or three times a week in place of meat.

In similar manner, statements can be made in regard to the use of eggs, cereals, sweets, fruits, and vegetables in the dietary. While these statements give only a general idea of the amounts of the different food materials that should be used, they emphasize the importance of thinking of meal planning in terms of the day rather than for the single meal. To make this method of teaching really effective, a teacher must devise situations which will give the children an opportunity to make choices of food for themselves. The preparation of a meal in the classroom and the selection of the foods to be used in the other two meals of the day, selecting a luncheon in the lunchroom which will "fit in" with their breakfast and dinner, and observation of the number of times a food is served in the home, can all be used in elementary classes.

Quantity in household terms. If the teaching of food selection is to be reflected in improved food habits, it is essential that students should realize the amount of each food that it is advisable to use for an adequate diet. Such amounts can be expressed in terms of weight or measure. When a person is planning the meals for a family, the most convenient quantitative information is to know the amounts of each food that should be purchased for the family daily or weekly. Since many foods, such as fish, beans, cheese, etc., are served generally only two or three times during the week, statements of weekly quantities are the simplest ones to use and to compare with the quantities actually used in the homes of the girls.

Statements of the amounts of foods to be purchased are more satisfactory for the study of the family dietary than for the study of an individual dietary. They are suggestive rather than accurate statements of food needs, but they present a concrete standard for judging the efficiency of a dietary, and one that can be used easily in the home. This is an elementary method of studying the quantity of food needed by the family, as it does not involve a quantitative study of calcium, iron, protein, and other food constituents.

As in the use of all quantitative methods, a class must have extended experience in comparing quantities in order to make this material most useful. The following laboratory problems are suggested as the type with which a girl should have experience in order to give her definite quantitative ideas in terms of measures and weights. Some of these problems may require several laboratory periods.

Problem 1. Study of the measured size of an "average" serving and comparison with the serving used by different members of the family according to their age and size.

Problem 2. Study of the number of servings from different sized roasts or other meats, from definite quantities of vegetables and fruits, etc. This problem might include a comparison of the quantities of meat required when it is served alone and when its flavor is extended by mixture with other foods.

Problem 3. Study of the amounts used per week of such staples as flour, cereals, tea, coffee. Statistics of home consumption secured by each student should be part of this problem. This will give an opportunity to compare the quantities needed by families of different sizes.

Problem 4. An exhibit of the quantities of the different foods that would represent a good standard for adequate nutrition for a family of definite size for a week. The class should arrange these foods throughout the week, and make out daily menus based on using definite amounts of each food.

Problem 5. The preparation and serving of one or more of the daily food plans worked out in Problem 4 would test the accuracy of the quantities to the satisfaction of the girls.

Quantity in scientific terms. The study of quantity in terms of the number of calories, the amounts of protein, iron, calcium, and phosphorus needed by the individual is the method most used in advanced courses. The accuracy of our knowledge of fuel requirements and of fuel value of food has resulted in great emphasis on the calculation or estimation of fuel value in the dietary work given in the schools. In fact, the study of the fuel value of foods is the only quantitative work that is outlined in many secondary school texts. That a diet may be adequate in fuel value and quite inadequate in other nutritive requirements has been clearly demonstrated in all of the recent studies of diets of limited costs. Some quantitative study of protein, calcium, iron, and phosphorus requirements should lead to more intelligent selection than a quantitative study based on calories alone.

There are two different points of view in regard to the purpose of this type of quantitative work in secondary school courses. Some teachers believe that dietary work in secondary schools should introduce a girl to the scientific methods of studying a diet and give her some experience in the technic of accurate calculation of the value of a dietary. By the greater number of secondary school teachers, however, quantitative work is given only as a means of explaining good selection, and as a result dietary calculations are reduced to the minimum or absolutely eliminated, and the sizes of the portions used in exhibits are secured from standard tables.

Exhibits of weighed or measured quantities of foods may be based on either of the following plans: (1) to show the amount of a given constituent in an average serving of a food; (2) to show the amount of a food that is necessary to give a certain number of grams or ounces of a particular constituent, such as $\frac{1}{2}$ ounce of protein, 2 milli-

grams of iron, or 1/10 gram of calcium. Exhibits to show the fuel value of foods are almost universally based on 100-calorie portions. A 100-calorie portion and a common or average serving correspond in size for so many foods, that it is easy for a class to establish the size of their average servings of all types of foods in terms of calories. From this, it is simple to calculate the amounts of protein, calcium, phosphorus, and iron in an average serving of a given food.

The advantage of using the average serving as the unit of quantity is that the students are able to use this unit easily in estimating the efficiency of their own dietary. If an exhibit of average servings is extensive enough to include all the types of foods used in the daily dietary of most of the class, it is possible for the girls to get from it a realization of the efficiency or inefficiency of their own food habits. A separate exhibit must be made for each factor for which quantitative standards have been established: fuel value, protein, iron, calcium, and phosphorus.

Quantity in terms of cost. A study of the expenditures for each class or group of foods furnishes another method of estimating the efficiency of the food purchases of the family. This method has been used quite extensively in the study of family dietaries of small cost, but has not been used to any extent in school work. It is more difficult to give exact quantitative ideas by studying food expenditures than to specify the exact number of pounds of meat, loaves of bread, pounds or quarts of fruit, etc., that should be bought. A large expenditure for meat, for example, may not mean the use of a greater quantity of meat, but more expensive cuts. Yet the cost of food supplies is such an important item in the family budget that the relation of expenditures to the quantity of food that is bought, as well as to the quality, should be emphasized in home economics courses.

The study of the food expenditure of the family and its

apportionment among the different kinds of food, not only gives the class another way of analyzing their own family dietary, but also it introduces them to a budget method of studying expenditures. A class that has made an intensive study of such comparatively simple problems as a food or clothing budget should be well equipped for the later study of the complete family budget.

The study of the food budget will be made far more interesting if the students work on material furnished by the class. Students should be asked early in a food selection course to accumulate all the vouchers given in the stores for the daily food purchases of the family. To these can easily be added facts in regard to the amounts used in a week and the cost of the foods that are bought in large quantities. The weekly expenditure for meat, eggs, milk, and fruits and vegetables, cereals and bread, sugar and fats can be estimated from these records and the percentage expenditure for each class of food can be calculated. If accurate records can be secured from several families, this will allow an interesting study of the variations in expenditures for each type of food in terms of the greater quantity used, higher prices paid per unit, or the excellence or inadequacy of the diets as compared with standard divisions of the food budget. This study of the family food budget can be made a class problem, or it can be made a home project.

Knowledge of food costs is a most essential feature of the planning of a dietary, and students in dietary courses must be given definite ideas of the relation of cost to food value. Food costs become more interesting when students have the responsibility of buying the supplies for meals to be served at a specified cost per person, for this is an opportunity to compare the cost of different vegetables, meats, fruits, etc., under conditions which give motive and reality

to the study. If sufficient emphasis is put upon this problem and upon the study of the quantities necessary to serve a family, it should lead to a realization of the kinds of dietaries that can be served at different standards of cost per person.

The study of food values in terms of the cost per 100 calories, the cost of 100 protein calories, or the cost of foods giving a day's allowance of protein, calcium, phosphorus, or iron, is a method that should be used in advanced courses. Tables or exhibits showing comparative costs in these terms can be used to demonstrate some interesting points in the relative efficiency of various foods in dietaries of different cost.


Meal Planning. Meal serving may be made a problem in food preparation or in food selection. When the serving of meals, planning of the methods of preparation or time allowance are emphasized, meal serving is a food preparation exercise. When the study of food combinations is the important factor and meals are served to illustrate some principle of choice rather than skill in cooking and serving, it becomes a food selection exercise. While a certain amount of meal preparation should accompany all meal planning, there are several topics that can be studied through exhibits or by discussion of meals observed in the lunchroom or at home. A class should have more extensive experience in planning meals than would be possible if all meals are prepared in the classroom.

A study of meal planning should be based on a daily plan rather than a single meal plan. Meals that are planned intelligently must be based on food needs, and it is impossible to express these for a smaller unit than a day. Even when a single meal is to be prepared, a plan should be made for the other meals in order that students become accustomed to thinking in terms of daily requirements. In most

families, the day's meal plan falls into a definite routine of serving certain types of foods at a definite time. Salads may be served at luncheon, at dinner, or at both meals. Luncheon dessert may be of one type, such as fruit in various forms, and dinner dessert may be more elaborate. Breakfast may be light, and dinner and supper or luncheon may be equally hearty.

One of the first problems in meal planning is to study the meal plans in the homes of the students. This should bring out facts in regard to home practices, such as the number and kind of dishes served at each meal, differences in menus due to the age or activity of the different members of the family, national customs, etc. The discussion of these problems will emphasize many essential points and help the students to see the necessity of considering the needs of the individual family in planning a dietary. The study of food combinations is another problem to which knowledge of home food habits will contribute, for one of the greatest difficulties in the dietary of many families is the monotony of the combinations. Through a study of the combinations seen in printed menus and of those used in the girls' homes, and through laboratory demonstrations of good and poor combinations from the standpoint of flavor, food value, and appearance, students should receive many new ideas that might be carried out in their homes.

The planning of original menus should be preceded by an analysis of the efficiency of printed menus in terms of good proportions of the essential food groups. The original menus planned by the class should illustrate some special problem, such as a plan for the meals of a family including young children and old people, or a plan for a family who do not like to use milk for a beverage, but must be encouraged to use at least two quarts a day in some form. Such problems as these will teach a girl to think of meal



planning in terms of needs rather than of liking and dislike for special foods. The working out of the menus for a whole week, arranged so that a definite quantity of each food is used, is a more difficult and comprehensive problem, but a most valuable one.

Study of the Food Requirements of the Family.

While it would seem to be the logical method to build up a concept of family food requirements from a knowledge of the requirements of the individual members, many of the problems suggested in the previous paragraphs illustrate a reversal of this method. In elementary courses or where only a short course is to be given, the study of family requirements represents a simple and usable method which can be easily translated into household practices. The study of individual requirements is most easily approached through a study of the girl's own need, in which she has more immediate interest and for which she has accurate information as to the amounts and kinds of food that she ordinarily takes. The requirements of other members of the family can be estimated and observed after definite personal standards have been established.

One of the special problems connected with family requirements is the consideration of the food needs of infants and children under school age. Should all food selection courses make a special study of this problem, or should it be emphasized only in those vocational courses that make a special study of child care? The tremendous importance of child care in the life of the community and the nation is becoming so universally appreciated that every opportunity should be grasped to extend this teaching. Every discussion of family food requirements that is at all related to the actual food habits found in the homes of the girls should bring out some points in regard to the diet of the younger children in the family and their special needs. Whether it

is necessary to make a special problem of infant feeding with some laboratory experience in the preparation of infants' and children's food will depend on the length of the course, the group for whom the food selection course is planned, and whether the course has a vocational aim or not. In some home economics courses only general reference is made to this topic under food selection, and a special study of diet is made in a course on child care which includes all the factors underlying the healthful development of children.

Infant feeding may be studied from two aspects: the technic of preparing food for children of different ages, with emphasis on sanitary methods; and the study of the nutritive principles underlying milk modification and the use of prepared infants' foods. It is the first type of work that is emphasized in most courses, especially in elementary work. The theory of infant feeding is seldom included, even in secondary school courses. Vocational courses in child care which include some experience in a child welfare clinic or day nursery give a real motive to the problem of feeding children, and it is possible to develop this problem more completely and effectively than when it is used merely for a classroom problem unrelated to the actual care of children.

Diet in Disease. In many of the earlier home economics courses, courses in dietaries or dietetics always included some work on diet in disease. The emphasis placed on this problem is steadily decreasing and in many secondary school courses this topic is not included. Teachers are gradually realizing that knowledge of the problems of normal nutrition has not only greater usefulness than facts in regard to abnormal nutrition, but that the modification of diet in illness must be based on a fundamental knowledge of individual body needs and food values. As knowledge

of the physiological value of foods increases, the treatment of disease by diet is becoming more emphasized by the medical profession. It is impossible for the elementary or secondary school teacher to keep close enough in touch with the development in these lines to give her students valuable work on the treatment of specific diseases. If the food selection course has included some study of the physiological uses of food as well as the food requirement of the individual, it may be profitable to include some discussion of corrective diet in the course. This would include such problems as diets for constipation and overweight or underweight. If a secondary school girl has been taught to think of foods in terms of their usefulness and to appreciate the needs of maintaining a definite standard in the quality and quantity of her food, she will be intelligent in cooperating with the physician in planning a diet in cases of illness.

It is most important that girls should be taught to understand the need for expert advice on many of the problems of the home and to know where to go for such opinions. Experience in working with scientific problems should arouse the desire for accurate information and unwillingness to accept unauthoritative statements or advice. It is one of the functions of home economics courses to stimulate such a scientific method of thinking and to help students to discriminate between inaccurate and authoritative sources of information rather than to attempt to give an encyclopedic treatment of all topics. The need for such teaching is particularly great in food courses, for the popular interest in health problems has resulted in widespread dissemination, in newspapers and advertising matter, of much indiscriminate advice and information about foods and their values and uses.

PROBLEMS

1. Discuss the value of posting in the lunchroom the fuel value of the dishes that are served. To what extent will this create interest in food selection? To what extent will it influence food habits?
2. What facts in regard to the food value of meat, milk, vegetables, fruits, and cereals would you teach in a seventh grade food course? What statements would you make in this same course in regard to the comparative value of the different vegetables?
3. A course in food selection may be offered in the sixth, ninth, or twelfth grades. What are the advantages and disadvantages of giving the course in each of these grades? What methods of studying the amount of food needed would you use in each case and how much time would you allow for this problem?
4. Outline a series of lessons on meal planning to be used in a tenth grade class. Designate the laboratory problems and illustrative material that should be used and the points to be brought out in discussion.
5. In a short rural school course would you emphasize food selection or food preparation? How could you organize the rural school lunch in order to make it most useful in your teaching? Would you offer the food course to both boys and girls?
6. In what course or courses is nutritional physiology taught in your school system? Make a survey of secondary school science text-books, and outline the subject matter in nutritional physiology that you would recommend for the science course that should be prerequisite for an advanced dietary course.
7. Outline the content of a half-unit course in dietaries or dietetics to be offered in the eleventh or twelfth grade. What conditions as to the extent of the home economics course, the amount of required science work, and prerequisite work in foods would you think advisable as a basis for the use of this course?

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CHAPTER V

SEWING COURSES

OUTLINE OF THE CHAPTER

METHODS USED IN SEWING COURSES.

HAND SEWING AND MACHINE WORK.

The teaching of stitches.

Machine work.

GARMENT CONSTRUCTION.

Repair of clothing.

PATTERNS.

Use and selection of patterns.

Pattern making.

Drafting.

FITTING.

HANDWORK.

The main objective of all sewing courses is to give students ability to sew or to make their clothing. Many courses that emphasize practical sewing include, also, some work on textiles, costume design, and similar related topics. In most of these courses, this material is taught quite incidentally, as the class needs general information about the practical problem on which they are working. This represents much the same situation as the use of food selection problems in cooking courses, though related material is usually given much less emphasis and time in sewing classes.

The power to make clothes, which should result from the training given in sewing courses, includes five types of abilities: (1) skill in the control of hand and machine technic and in the handling of materials; (2) knowledge of constructive processes and skill and judgment in their use; (3) ability to use or to make patterns and to cut eco-

nomically; (4) ability to fit garments; (5) appreciation of good color and texture combinations, good proportions, and all other aspects of design that must be considered in any constructive activity. With the exception of the last, which is a problem of selection, all of these types of abilities require training that emphasizes the acquisition of skill.

Sewing courses vary greatly in the importance given to the training in any of these five types of work and in the methods used to secure power in each of them. Teachers usually emphasize the type of training that they feel is needed by their particular group. It is easily seen that such needs will vary with different localities and with the gradual changes in the ready-to-wear industry that are affecting the type and extent of home sewing. Since sewing is one of the household activities which shows a wage return for time spent, it is probable that it will be retained in some form in many homes as long as the homemaker makes her contribution to the income through home work rather than through outside employment. While the most desirable training should give power in all aspects of the making of clothes, it is difficult to secure this in the short time allowed for such training in school. The effective course should give the quality and degree of skill which will make sewing most profitable to the homemaker. Whether this should take the form of increasing emphasis on the higher wage-earning work of designing and fitting, on increasing speed and facility in the more elementary constructive processes, or on giving ability to do a specialized type of sewing, such as making infants' and children's clothing, should depend upon the group and the demonstrated needs of the homes.

Methods Used in Sewing Courses. A clothing topic such as the making of a piece of underwear or a dress may require a great many lessons for its completion. Because

of the danger of keeping a problem on hand so long that the class will lose interest, class discussions after one or two introductory lessons are generally concerned with the problems involved in the making of the article. Since discussions are centered around practical situations rather than on the study of principles or of selection problems, sewing courses generally make no formal division between laboratory and recitation periods. Laboratory work may be preceded by a ten or fifteen-minute discussion, or a class may start immediately upon laboratory work, continuing a problem which has been discussed in a previous lesson. As the development of skill in handling materials and in constructive processes is the primary aim of most sewing courses, this emphasis on laboratory work is the logical method. The weakness of most sewing courses has not been the use of this intensive method of studying the practical problems, but the failure to include as an integral part of the course more complete study of other topics, such as textiles, costume design, patterns and pattern making, etc.

The type of work done in sewing classes during the period devoted to the consideration or study of problems can more often be described as teaching by demonstration and dictation rather than discussion. Most technical methods are based upon reason as well as upon knack, and there is no reason why a class cannot work out by discussion and laboratory experiment the methods of making such constructive processes as seams, plackets, finishes for raw edges, etc., and their adaptation to the requirements of different fabrics and garments. It is only through such working out of methods that a class can gain power to solve the many problems of this kind that will arise in the making of their own clothes.

Another marked characteristic of sewing classes is the general use of individual rather than class teaching. Stu-

dents in sewing classes exhibit not only the individual differences seen in all school work, but they also bring to the class varying degrees of hand skill. This has made it extremely difficult to keep a class together and to have all members equally ready for class discussions of construction problems. To meet this problem various devices have been used, such as the making of more elaborate articles or of additional articles by the more skilled members of the class, the use of make-up periods in which the slow members of the class can receive individual instruction, or the use of group instruction rather than class instruction, the groups being divided on the basis of their stage of advancement in the completion of the article. Individual teaching represents an extravagant use of the teacher's time and a loss of the stimulation and suggestion that should come from class discussions. One of the evidences of better teaching methods in sewing classes is the increasing use of group and class teaching.

Hand Sewing and Machine Work. The relative importance given to hand and machine technic in sewing courses has steadily changed to greater emphasis on machine work. The increased use of machines in courses for beginners is one of the evidences of this change, for in the earlier sewing courses no machine work was attempted until a class had complete control of all hand sewing processes. The relative simplicity of machine technic makes it possible for a girl to start immediately on garment construction, which brings her more rapidly to an understanding of the constructive processes used in making clothes. This means not only an increase in the practical value of the course, but a marked increase in the number of problem-solving situations that can be developed, since the time required for the mechanical work of sewing is much decreased and that spent on constructive processes increased.

One of the problems connected with the selection of hand or machine work for beginning courses is the possible necessity for skill in either of these types of work as prerequisite to the acquisition of skill in the other. Though hand sewing and machine sewing technics are somewhat different in character, they are undoubtedly contributory to each other. The judgment of the distance from the edge of the cloth or seam to the presser-foot of the machine required in straight stitching can be carried over directly into spacing a hand-made seam. The control of the fabric at the machine which necessitates firm but delicate handling is an equally valuable ability in hand sewing. Careful analysis would probably show minor technics acquired in hand sewing which are used in machine sewing. There is little evidence, however, of any necessity of requiring hand sewing as a prerequisite for machine sewing. The fact that the muscular coördinations required by handwork are more complex and finer than those used in machine sewing is suggestive of the possible value of learning machine control first, with a gradual acquisition of the hand stitches needed for the different garments.

The amount of hand sewing required in the making of clothes varies greatly with the type of sewing. Underwear and plain dresses and waists are usually made by machine, and the only hand stitches that are used are basting, gathering, buttonhole making, and possibly hemming and overhanding. In the making of elaborate costumes or in fine sewing, handwork is more essential. Should beginning courses include the making of all hand stitches, or should only those stitches be used that are actually needed by the garments that are made? While knowledge how to make all stitches should give greater ability to select the stitch best adapted to the various situations met in sewing, the possible need for some stitches is so slight that there seems

little justification for requiring ability to make them from all children. In the gradual evolution of modern methods of construction, many of the stitches that were essential when hand sewing was the universal method of sewing are almost never used at present. The back stitch and overcasting illustrate two stitches that are largely displaced by machine methods. The form of hemming required by wash fabrics is seldom used in the making of garments, for hems in cotton fabrics are usually machine stitched. The slip stitch hemming used on wool and silk garments requires an entirely different handling from plain hemming.

The requirement of hand sewing and hand problems before starting on machine work creates another problem which should be carefully considered by home economics teachers. The slowing down of power to produce which results from hand sewing undoubtedly has some effect in reducing interest in clothing courses and in creating the leisurely and pleasant but unstimulating atmosphere of many sewing classes. A girl who knows that her entire class hour is to be spent in sewing a hem has no incentive or motive for constructive thinking. This slowing down is especially marked when hand problems are required in upper grades or secondary school courses.

Machine work is used in some schools as early as the third grade, while in other places it is not undertaken before the eighth or ninth grades. Lack of equipment is the reason for the failure to use machine work in many schools rather than conviction on the part of the teacher that it is undesirable. Hand sewing can be taught in a regular classroom with only individual equipment, whereas machine sewing requires special equipment and more space. Furthermore, the making of small hand sewing problems is taught by the grade teachers in many schools where garment construction would require a special teacher.

The teaching of stitches. The muscular control involved in hand sewing is quite complex. It requires control in the use of each hand and coördination in the movements of both hands to make a stitch well. The directions for making stitches given in most sewing books emphasize the appearance, use, and methods of beginning and ending the stitch, but give little idea of the movements involved in making it. The positions and movements of the right and left hands are so interrelated in the teaching of a particular stitch that many teachers do not distinguish between them or analyze the successive steps by which control can be secured most easily. The great gain in skill and in the time required to secure this skill, which is demonstrated whenever attention in teaching stitches is given to the positions and movements of each hand, shows the need for more careful consideration of this problem.

Stitches are generally taught by showing illustrations of the positions of the hands and the appearance of the stitches in the various stages of making and by demonstrations by the teacher of the positions and the method of making. Such methods of teaching may depend on imitation without any analysis of the movements involved, and the attention of the children may be largely concerned with the size and shape of the stitches rather than in making adjustments in position or movement that will secure better results. The hemming and running stitches illustrate stitches that can be taught with far greater ease if some study and experience in the movements of each hand precede attempts to make the stitches. As hemming is usually taught, even spacing between stitches is secured by judgment of the space between the last stitch and the projected stitch and by rotating the left hand to bring the place for the new stitch into a convenient position. Observation of a skilled worker will show that the spacing between stitches in her case is en-

tirely controlled by the amount of material that is allowed to slip between the forefinger and thumb of the left hand. This slipping of material between the forefinger and thumb of the left hand is an important element in the making of most stitches. If a child is taught to control this movement, it will greatly simplify the teaching of the individual stitches.

There is probably nothing which so affects the size and shape of a stitch as the maintenance of a taut surface on which to work. In the making of some stitches this is controlled by the left hand alone, while in others it involves the use of both hands. To hold material in the left hand so that it is taut, and, at the same time, constantly to adjust it so that the working surface changes as the sewing progresses, is a most difficult problem. Yet the plain hand hemming stitch, which is one of the few stitches requiring this complex muscular control in the left hand, is one of the first stitches taught in hand sewing courses. Basting as taught in many hand sewing courses is another illustration of the use of this same difficult hand motion. An interesting fact in regard to basting is that this method of making, laboriously learned, is seldom used in garment making. The skilled worker uses the running motion for even basting, and for uneven basting she holds the material by bracing with the right hand on a table or on her knee.

A thorough study of the movements used in making hand stitches should not only greatly decrease the time required to teach effective muscular control, but it should also prevent the acquisition of the many wasteful hand habits seen in sewing classes. Experiments in training mature persons to use the left hand in sewing have demonstrated the value of careful analysis of the movements required by each hand and of the use of short drills or exercises to secure muscular control. These experiments show

also the advantages in the selection of a sequence in the teaching of stitches which will demand a gradual control of the more difficult movements. These results agree with those secured from a study of hand writing, another activity which involves fine muscular coördinations.

The influence of the texture of fabrics on the ease of teaching different stitches is another point which should be noted. Fine stitches, such as running, should be taught on sheer, firm fabrics; buttonholes on a non-fraying material, such as flannel; hemming on soft, thin fabrics which do not resist the needle. Sleazy, bulky, or stiff fabrics involve special problems in the handling of materials which should not be allowed to confuse the problems of the beginner. As soon as possible, however, a student should have experience with a variety of materials, for the handling of every new material requires somewhat different control. Good handwork requires not only muscular control, but training in noting accurate spacing, evenness in size of stitch, and straightness in the lines of sewing or edges of materials. Striped or checked fabrics, such as dimity, and coarse textured materials which show the threads of the fabric easily both are useful in assisting judgment of space and size of stitch.

Machine work. One of the most important factors in the making of clothes is good machine control. Stitching can make or mar the appearance of a garment, and speed and facility in using a machine will greatly increase a girl's productive power. In most schools, the only machine work is that required on the garments made in the class. As a result, emphasis is placed entirely upon good, straight stitching, and little time is spent on learning the type of machine control involved in stitching without basting and in the use of machine attachments. Skill and speed in the use of the machine requires extended practice, which is

difficult to secure for a class with the small number of machines found in most classrooms.

It is possible, however, to extend the experience of the class by the requirement of machine technic problems for home work. In the case of students having no machines in their homes, this would mean that some provision should be made for the use of the school machines outside of class time. Technic problems are of two types: (1) exercises in the use of attachments or in the making of construction problems, such as illustrations of different plackets, samples of seams, samples of different ways of using trimmings, etc.; or (2) the making of articles or garments entirely by machine without basting—the articles or garments to be so planned that they will require progressive skill in construction and machine control.

The first type of problem not only gives experience in handling the machine, but may also serve as a form of experimental work in construction; as, for example, when a class is given the problem of working out different methods of making a finished seam by machine or different methods of putting on a ruffle. The most serious objections to the use of technical problems of this type are: that they do not give training in handling constructive problems under the same conditions as in a garment; that the cost of using materials for such an unproductive purpose makes this type of work prohibitive; and that time spent in this way could be more profitably spent in actual garment making. In spite of these objections, the judicious use of machine technic problems at different points in a garment construction course is most valuable. The acquisition of any form of manual skill requires time and experience. While machine control may result as a by-product of garment making, the centering of the attention of the class on standards of machine stitching and on methods of securing effects

by machine should result in a marked decrease in the time spent on doing over poor work and in unnecessary preparatory processes, such as basting long, straight seams.

In power operating classes, training in machine technic is usually given in the making of garments. The object of using this type of work is to give not only ability to use a machine well, but also skill in machine construction. Machine construction is done without basting or other hand processes generally used in sewing classes, and the problems must be arranged in such a sequence as to give a gradual approach to the more complex methods of construction. In this way the students are able to secure gradual control of the machine, and, at the same time, they can produce usable articles. Another element which enters into the training in machine control in power operating classes is the opportunity for numerous repetitions of a constructive process which results from the use of the "factory system" of making garments. This means that a girl will carry through one constructive process several times; for example, stitching the seams of many sleeves before attempting the more complicated problem of putting on a cuff.

Both of these methods of teaching machine technic—the making of garments by machine construction and the use of the "factory" method—can be carried into classes using foot or small motor-driven machines, if skill in machine construction and control seems a desirable aim in sewing courses. Work of this kind requires not only a large number of sewing machines, but also some motive for making a large number of simple garments and some method of securing materials for them. The making of garments for institutions or relief organizations is the most usual method of providing for the latter requirement. The making of children's garments to be sold at the school or in the shops has been carried out quite successfully in several high schools.

Garment Construction. Descriptions or instructions how to make different seams, finishes of edges, plackets, methods of putting on trimmings, and similar problems constitute a large part of the subject matter considered in sewing courses and in text-books on garment making. The analysis and decision on the form of construction and on the method of making that is best adapted to a particular fabric or situation are the types of problems which are constantly arising in clothing courses. Since garment construction is so important an element in sewing courses, the methods used in teaching this topic are most important.

The fabrics and the methods of construction used in clothing are being changed constantly. This means that a girl must not only know and be able to carry out a number of constructive processes, but she must be trained to observe and discriminate slight differences in construction and to select or devise the methods of construction that should be used in a particular situation. Instruction in garment construction, therefore, should be of a type that will give her experiences of this kind in the classroom. A class that has worked out the different methods of making plackets through a study of those found in their own clothing will be far more intelligent about placket making than a group that has been "given directions" for making different plackets. Even when a class has too little experience to handle a problem requiring comparative analysis, the methods of making the seam or placket selected by the teacher should be developed by the class itself rather than by directions given to them. The practice of planning a definite method of construction to be used on a particular garment and of requiring all the class to use the same method results in uniformity in class work, but loss in problem solving. If a class has had experience in working out different methods of construction, there seems little value

in a rigid requirement of a single method when selection should be based on variations in the quality and kind of fabrics and trimmings that are being used by the class.

Many of the forms of construction found in sewing classes are seldom seen in ready-made clothing, and many forms of ready-made construction are not taught in sewing classes. Ready-made construction is machine construction. It represents generally the quickest methods. Many of these methods can be carried out on a household sewing machine by the use of machine attachments, while others, such as hemstitching, require a special machine. The survival of methods of construction that are difficult or time consuming is certainly not justified unless they add greatly to the appearance or durability of a garment. Short cuts and quick methods must be used by the home seamstress or dressmaker if she is to assign a fair wage value for her time.

The methods of construction that will be used by a class are largely controlled by the garments that are being made. Construction in dressmaking is quite different from plain sewing, and construction used on a plain shirt waist is quite different from that used on a sheer waist. In the desire to give a class experience with all types of construction, some clothing teachers require the making of garments that have no relation to the desires or use of the students. Rigid adherence to a particular sequence in the garments that are made is another way in which the selection of garments may be unadapted to the needs of a class. An illustration of the latter practice is seen in the requirement of underwear making before waists and skirts are attempted in secondary school courses. The experience of many teachers has been that the increased interest of the class when the course started with a plain waist resulted in a rate of progress that could not be secured by the more conventional sequence of garments.

Repair of clothing. The repair of clothing is included in some courses and not in others. This difference in emphasis is due to the realization that darning and patching offer less opportunity than the making or remodeling of clothing for planning and working out problems and, also, that they often require a good deal of hand skill. The earlier sewing courses gave much importance to this problem and included many methods of repair that required skilled handwork, such as the overhand, seamed, and napery patches, as well as the simpler mending problems of stocking darning, cloth darning, and hemmed patch. The chief difficulties encountered in teaching mending and darning are the lack of interest on the part of the children and inability to obtain garments which require the amount and kinds of mending suited to the skill of the class. This inability has resulted in the use of a formal method of teaching mending on samplers. Though such a method gives knowledge of mending processes, no study is made of the different ways in which a torn garment would be repaired under various circumstances, which is essential if mending is to be made a practical problem.

Patterns. The amount and type of pattern study will vary greatly in sewing courses of different length and different types. In short courses, the making of patterns should be subordinated to a study of patterns, while in a longer course students should have experience in all methods of pattern making. In courses that aim to give training in the higher wage-earning abilities of fitting and designing, pattern study should assume greater importance than in courses that are emphasizing skill in the making of simple garments.

In most schools the study of patterns is not undertaken as a special problem. As each garment is made, a short time is given to the study of the commercial patterns that

are being used or to the making of a pattern. If pattern study is to result in ability to make original patterns or to understand the principles that govern the shape of patterns, it should be taught as a special topic and the attention of the class should be centered on these problems.

Use and selection of patterns. The use and selection of patterns are important problems in sewing courses. It is comparatively simple to teach the use of patterns. This topic includes: (1) the study of such general problems as the proper position of warp and weft threads in the different pieces of which a garment is made, the influence of the nap and pattern of a fabric on the placing of a pattern on the cloth, etc.; (2) some experience in the placing of patterns on cloths of different widths and kinds; (3) experience in reading and interpreting the directions given on commercial patterns; (4) some study of the shapes of the different pieces used in the construction of garments; and (5) the different ways of changing patterns to suit different measurements. The use of patterns is an elementary problem, and a study of this topic should precede any attempts at pattern making.

The basis for intelligent selection and adaptation of patterns is an understanding of the essentials of a good pattern for any garment and the modifications of patterns that are needed for persons with different types of figures. These are problems that may be studied either through the making of patterns or through a comparative study of commercial patterns. Though the making of patterns gives greater emphasis to such a study, it is possible to illustrate most of the points that must be considered in selecting a pattern by demonstrating on a form or on different members of the class the effects produced by modifications in the shape of patterns.

Pattern making. Pattern making is a secondary school

problem; it should not be undertaken until after a class has had some experience in the use of patterns for different garments. Though pattern making of some kind is found in most sewing courses, its purpose has not always been understood. To many teachers, it is merely a means of securing patterns for a class to use in their sewing. Because of this attitude, pattern making in many courses has become a mechanical exercise that gives students no ability to make original patterns and no understanding of the fundamental characteristics of patterns. In the making of clothing of unusual or special design, the ability to make patterns is essential. Commercial pattern makers offer great variety in designs, but the distinctive touch or the unusual detail must always be given by the dressmaker or designer. Experience in pattern making should give students more freedom in costume designing and more certainty of carrying out a design accurately.

Patterns are made by drafting, by free-hand cutting, by modeling and draping, and some experience in all of these methods should be included in a complete course in pattern making, as each method requires quite different technic. These different ways of making patterns are necessitated by the characteristics of fabrics and by the effects required by different garments. Garments of conventional design, such as underwear and simple dresses and tailor made suits, which need firm fabrics and accurately placed seams, are usually made from drafted patterns; cloth and silk costumes which show a wider variation in design are generally modeled; and costumes of soft clinging fabrics are draped.

Pattern making has been interpreted narrowly in most secondary school courses, and drafting is the only type of work that is used universally. While the making of patterns by modeling with paper or cloth on a dress form is found in a few courses, modeling has not been given the

emphasis that it deserves. This has been caused both by lack of equipment and by failure to appreciate its value. Though the expense of equipping a clothing laboratory with standard dress forms for each girl is great, it is always possible to require each girl to provide her own dress form. Methods can be devised for making these at small cost. If the practical uses of dress forms are emphasized, students will be more interested in making a well-constructed form that can be used for class work in pattern making and in fitting and then kept for home use. Draping is a form of pattern making used only in advanced dressmaking. It is a laboratory exercise of costume design rather than of sewing courses.

In most schools each method of pattern making is taught in a different course. This isolation of the various ways of making patterns is unfortunate. Modeling and drafting are mutually helpful, and students who have had an opportunity to make and compare drafted and modeled patterns for skirts and waists will have a better understanding of the need for accurate and carefully placed lines in a pattern and of the relation of lines drawn on a flat paper to the seams placed on a figure. The ability to cut free-hand patterns should be an outgrowth of drafting, and some experience in making patterns for sleeves, collars, pockets, etc., by this quicker method should be included in all drafting courses.

Drafting. Drafting is the drawing of patterns on paper or cloth from measurements taken from the figure. There is almost no other form of work in sewing classes about the value of which there is so much disagreement. It is used in some schools for all garments made in the elementary and secondary school grades, while in others all garments are made from commercial patterns. These represent the extremes, while between them lies the more usual practice

of giving two or three drafting problems in the ninth or tenth grade. The discussion of the value of drafting should be based on its usefulness to the girl in her home sewing and on its economy or value as a teaching method as contrasted with other ways of teaching the same facts or principles.

The practical value of drafting as a method of making patterns has been much over-estimated. Because of its complexity, it allows little flexibility in the design of garments unless used by a person who has had wide experience in making and using patterns. As a result, only such basic patterns as shirt waist, plain skirt, and underwear are drafted in sewing classes. These can be used with only minor modifications through several years. This means that the highly specialized technic of drafting patterns will be so seldom needed in home sewing that few girls will remember clearly enough the details of making them ever to use this ability.

Another practical value claimed for drafting is that its use will enable a girl to make patterns for unusual figures. Unless the drafting system that is taught uses actual measurements for both the position and the length of the lines of the pattern, drafted patterns will be as conventional in outline as commercial patterns. An examination of the drafting systems used in schools will show that in most of them the drawings are based on "average" variations, and many of the measurements that are used are proportions of a limited number of basic measures, such as the length of the back, bust, chest, and neck measurements.

It is as a method of teaching the shape of the parts of a pattern and its variations that the use of drafting in school work should be justified. Though it is possible to study patterns without requiring drafting, the making of drawings gives a motive for a more detailed study, and furthers

exact observations of small variations in shape. A girl who has had to draw a neck curve should be more critical of the shape of necks in patterns than if she had not had this experience. If drafting is to be most valuable, it should be so taught that the principles underlying the shape of the parts of patterns are emphasized rather than the drawing itself. Unfortunately, in most of the drafting taught in the schools, the attention of the students is centered entirely on the details of making the drawing, and no explanation is given of the reason for using a particular measurement or for drawing the lines of a pattern in a certain way. This may be due to the use of an inadequate drafting system which cannot be explained or to the use of a dictation method of teaching. The use of letters and numbers to designate lines and the points from which lines are drawn also tends to center attention on the mechanics of drawing.

Fitting. Fitting and pattern making are very closely related, as modeling and draping are both fitting processes. Many of the problems that must be considered in fitting, such as the position of seams, ways of adjusting material to counteract defects of figure and of handling various fabrics, etc., can be demonstrated by the teacher, but the most important element of the acquisition of skill in fitting is to give the class experience in fitting with a variety of materials and a number of different figures. It is easy to give such training if a class has dress forms on which to work.

In many schools the only fitting done by the class is on the waists and dresses that they are making. This allows not only very limited experience in adjusting materials to a figure, but it also usually results in individual rather than class teaching. When fitting is studied as a special topic, it is made a class problem. This means great economy of the instructor's time and more assurance that each member

of the class will understand all of the principles of fitting. Furthermore, the students will really have experience in fitting, which is not always the case in sewing courses. The necessity of turning out a usable product makes it a constant temptation to a skilled instructor to do the fitting herself rather than to let the girls experiment, for this often results in getting the materials in bad shape. Another difficulty in doing the first work in fitting on actual garments is that a certain amount of this fitting must be done on the person for whom the garment is being made. This means that a girl must fit her neighbor rather than herself, and her lack of skill makes a difficult problem.

Handwork. Domestic art, household art, or sewing courses, as they are variously called, include not only the making and selection of clothing, but also experience in doing various types of handwork, such as weaving, knitting, crocheting, cord work, basketry, and decorative needle-work. These activities, with others, such as woodworking and cardboard construction, generally called manual training, and clay modeling, usually associated with the art department, constitute the industrial arts activities that are used in the early grades in order to give children acquaintance with constructive materials and processes, to stimulate thinking along constructive lines, and to teach good structural and decorative designs. The value of any one of these types of handwork is in direct proportion to the practical value of the activity, its similarity to the adult activities of the community, its relation to the interests of the children, and the degree to which it requires constructive thinking and planning. Measured by these standards, the value of a particular hand problem will vary greatly under different circumstances. Many teachers of handwork give undue importance to the acquisition of a special technic or to a particular form of handwork. This is seen in the over-

emphasis given to cord work, basketry, and weaving in various localities, for in many cases their use has no relation to the interest or needs of the particular group. Constructive activities related to classroom or group interests or to such problems as the construction of illustrative material to be used in other classes, such as properties for a dramatic class, buildings and costumes for history courses, or equipment for science courses, have a vitality not to be secured by the formal completion of a problem in embroidery, woodworking, or clay modeling, prescribed and developed by the instructor.

Several of the types of handwork are more definitely related to the technic of sewing than are others. The use of applied design problems in needle-work in the early grades is valuable not only because of the opportunity that such work offers to carry out a design with actual materials, but also because it starts the use of the needle and thread under the most favorable conditions. The large stitch and the mechanical advantages of the coarse textured materials, generally used for these problems, are both elements that make for ease in muscular control of the needle and thread and for judgment of even and uneven spacing of stitches. The necessity for studying good spacing and making working plans for these problems are other elements which make decorative needle-work an effective form of handwork.

Weaving on small or large looms is another type of handwork that is supposed to offer a special contribution to sewing courses. While weaving may be as valuable as any other form of handwork for securing muscular control and acquaintance with and interest in materials, its specific contribution to clothing courses seems to be in its ability to illustrate the interlacing of threads in a woven fabric as a basis for the explanation of warp, weft, and selvedge, and to give some experience in the technic of making a

woven darn. Since a knowledge of warp and weft can be secured far less laboriously through raveling a sample of cloth, or by using paper mats or other illustrative material, the use of weaving for this purpose seems hardly justified. Furthermore, it seems to make little difference in the ease of teaching mending whether a class has had weaving or not. Both large and small loom weaving give an opportunity to study good spacing in border design and give experience in the adaptation of designs to the limitations prescribed by the nature of the weaving process and of the mechanical appliances used in weaving.

Knitting and crocheting are forms of handwork that are often used in sewing courses. They represent two hand technics that offer very little opportunity for constructive planning. After a short period of making muscular adjustments, these processes become mechanical and their value as educational material decreases. While the value of learning to knit and crochet may be great enough under some conditions to make these school problems, the use of school time for extended practice in knitting and crocheting is distinctly undesirable. The teaching of knitting during the war when ability to knit represented not only an achievement that had a definite value in the community, but that also gave to the children an opportunity to express their patriotic interest illustrates a legitimate use of handwork of this type. Crocheting is used in some secondary school courses as an applied design problem. Under these circumstances the value of the activity should be judged on its effectiveness as a medium for the application of design rather than on the educational value of the activity itself.

These handwork problems may be offered in special courses as part of the manual arts, or they may be given as special topics throughout the sewing course. The use of one or more problems in decorative needle-work in each

year of the elementary school sewing course is a usual practice. The design for these problems may be developed in the art department and constitute the practical application of the principle of design that is being studied in the grade. Unfortunately, some home economics teachers are more concerned with the teaching of embroidery stitches than with application of designs, and many of the needle-work problems are decorated rather than designed. This is a serious loss of an opportunity to train students away from over-elaboration.

PROBLEMS

1. What kind of material should be given in a sewing text-book to be used by a class in which knowledge of all methods of construction is developed through experiment and discussion?
2. Outline all the arguments for starting a sewing class on hand problems rather than on machine problems. What sequence would you use in presenting the different stitches?
3. What machine technic problems would you use in an elementary sewing course of 144 lessons offered in the sixth and seventh grades and in a half-unit course in sewing in the ninth grade? How much ready-made construction would you teach in this last course?
4. What conditions in a school would make you spend the maximum amount of time on clothing repair? Discuss clothing repair as a secondary school problem.
5. What type of work in sewing will be most profitable for classes in the following schools?
 - (a) Elementary school in poorer section of a large city.
 - (b) A rural school.
 - (c) An elective course in a general high school.
6. Outline the subject matter that would be included in making fitting a special topic. How much time would you allow for such a study?

7. What type of pattern making should be used and how much time should be given to it in the following cases?
 - (a) Ninth grade sewing course, consisting of 90 lessons.
 - (b) Beginning and advanced sewing courses, ninth and tenth grades, 360 lessons.
8. How would you plan a drafting lesson in order to use a problem method in teaching it?
9. Explain the purpose and value of teaching embroidery stitches in sewing classes. What types of learning are involved in this problem?
10. Which forms of handwork used in home economics courses present the greatest opportunity for constructive thinking?

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CHAPTER VI

THE SELECTION OF CLOTHING

OUTLINE OF THE CHAPTER

TEACHING PROBLEMS.

Laboratory exercises.

TEXTILES.

Textile laboratory exercises.

COSTUME DESIGN.

Color and design in costume.

Style and historic costume.

Original designs.

HYGIENE OF CLOTHING.

THE CLOTHING BUDGET.

MILLINERY.

Clothing selection has received much less attention in home economics courses than sewing or the making of clothing. In most schools selection problems are considered in the study of textiles, costume design, and the clothing budget, topics that are included with practical sewing in what is known as a clothing course. Unfortunately, many teachers do not emphasize selection in these courses. The study of textiles is often only a study of fibers and textile manufacturing processes, not of textile values, and the emphasis in costume design is on the making of designs rather than on the design problems involved in the selection of clothing. This has been due to failure to recognize that ability to select clothing may be as desirable an objective of clothing courses as ability to make clothing. With the steady expansion of the ready-made clothing industry and the continual improvement in its products, it would seem

that for some if not for all groups of students instruction in clothing should emphasize clothing selection.

Intelligent selection of clothing involves three factors: (1) knowledge and appreciation of clothing values, such as knowledge of quality in fabrics and of standards of workmanship in construction; (2) appreciation of color, good design and cut in garments, and ability to select clothing adapted to the characteristics of a particular person; (3) realization of the social and economic problems involved in clothing expenditures. Since much of the subject matter used in giving training in clothing selection is found in textiles, costume design, and clothing costs and budgets, these constitute the three main divisions of clothing selection. This material should be so taught, however, that it is seen in relation to such practical problems as the selection of hats, suits, coats, and other articles, study of the suitability of clothes for different purposes, study of style in clothing, study of standards of dressing, etc.

Teaching Problems. The extent to which the making of clothes is an essential element of efficient selection of clothes is an interesting question about which there is a great variety of opinion. It is evident that the mere acts of cutting, sewing, and putting together a garment do not give a magical insight into the principles of garment selection. It is only through centering the attention of the class on the special points essential to good selection that results can be secured. The real issue is whether these points can be taught without the use of laboratory experience in making garments or whether such experience will give greater vitality to the study and keener insight into the problems.

Experience in garment making should contribute to knowledge of good workmanship in construction, but it is possible to make a critical study of the construction of

different grades of ready-made garments without requiring the actual making of seams, plackets, hems, tucks, etc. While a study of the lines, cut, and fit of garments can also be carried out as an observation problem, the type of appreciations involved here is far more complex than that required for the simpler problem of appreciating good construction. A greater variety of illustrative material and some form of laboratory experience are required in order to show the significance of small variations in lines or cut. Ability to fit a garment and to recognize good lines and cut are such specialized problems that they may be taught as a special topic isolated from the complete making of a garment. Modeling and draping with paper and cloth on a form, combined with experience in refitting and altering stock sizes in ready-made clothes to suit the different needs of the members of the class, illustrate laboratory methods which do not require the making of a complete garment or skill in a great variety of constructive and hand processes. Yet the making of garments necessitates discrimination in the choice of fabrics, in the selection of good proportions for seams, hems, etc., and in making plans for trimmings and finishings, and such experience should contribute to appreciation of good value and design in clothing.

Another point that should be noted in regard to the relation of making and selection of clothing is that the underwear and plain waists and skirts made in most sewing classes do not furnish a type of laboratory experience that is of great value in the selection of tailor-made suits, coats, wraps, silk dresses, hats, shoes, etc. A study of clothing values should be broad enough to include all of these articles.

Laboratory exercises. The teaching of clothing selection, like the teaching of food selection, necessitates actual experience in making choices as well as study of the elements of good choice. This creates a difficult problem, for,

while it is comparatively simple to secure illustrative material from which choices may be made from the lunchroom or cooking classes, good illustrative material for clothing courses is not so easy to find. The following laboratory and observation problems illustrate some of the ways in which students may be given an opportunity to form judgments on clothing values:

1. Knowledge and judgment of qualities in fabrics and of good color and fabric combinations should be secured from actual materials. The pieces of cloth used for this purpose must be large enough to show the characteristics of the material easily and to admit draping on a form to illustrate the possibility of combining with other fabrics. A collection of such lengths of a great variety of fabrics should be part of the equipment of all clothing laboratories, and in order to include the newer fabrics, it should be augmented constantly by gifts or purchases. A class studying color and fabric combinations should be given practical problems, such as the selection of fabrics for a special garment for a particular member of the class, or the selection of materials to use in combination with other fabrics. In most sewing classes such choices are made individual rather than class problems, with consequent loss of the diversity of suggestions that will come when a number of girls are working intelligently on the same problem.

2. In most clothing classes little use is made of the girls' own clothing in teaching appreciation and understanding of becomingness and the adaptation or lack of adaptation of designs to different individuals. Since each girl generally wears what she or her mother thinks is becoming to her, it is always difficult to study and criticize the clothes that she wears. It is possible, however, to use different girls as models and try on them hats, coats, and even dresses and waists belonging to several other members of

the class. In this way it is possible to illustrate why a particular shaped brim or a certain size of crown is more becoming to a girl or why certain colors are effective on one person and unattractive on another.

3. Where field trips or observation and report projects can be arranged, the study of clothing exhibits in the shops is most valuable. Since many of the decisions as to what a girl does or does not want in her new dress, suit, or coat are formed from what she sees on people or in the shops, some study under direction of the clothes seen in the shops should lead to more intelligent judgments.

4. Carefully organized experiments to decide on the wearing quality of different grades in articles of clothing should also be included in clothing selection courses. The experiment itself would be carried out in the homes of the girls after class discussion of the problems involved and selection of the articles to be tested. The particular form of the experiment might be made a class or an individual problem. Classroom laboratory work in the testing of textiles should be made a part of this project.

Textiles. Textiles may be taught in a separate course, as a major topic in a general clothing course, or incidentally as a minor topic in a sewing course. The last of these is the most usual plan, and textile lessons are based on materials being used by the class. A not uncommon but a most ineffective practice is to study each fiber (cotton, wool, silk, linen) in a different year. An intensive study of textiles with laboratory exercises and observation and report problems is a more effective method to use for secondary school courses, especially when ability to select fabrics is the purpose of the study. In many schools work in textiles is limited to a study of the dress and underwear materials used in sewing classes. Since these constitute but a portion of the fabrics used in clothing, some consideration

of the special values to be noted in the purchase of handkerchiefs, stockings, hats, coats, etc., should be included in all courses that emphasize clothing selection.

The subject matter consists of four general divisions: (1) the study of textile fibers and of the manufacturing processes by which textiles are made; (2) textile values; (3) textile designs, color, dyes, and dyeing; (4) the effects on fabrics of cleansing agents. Manufacturing processes have been more emphasized in textile courses than a study of textile values. This has been due largely to a greater amount of available material on this aspect, which has increased the ease of giving accurate information, and to the comparative simplicity of teaching facts in regard to the making of fabrics as compared with developing discrimination in the selection of fabrics. While the study of manufacturing processes has involved in some cases merely the consideration of the primitive processes used in the preparation of textile fibers and in the making of yarn and fabrics, in other cases it consists of a detailed study of modern methods of yarn making and fabric weaving and finishing.

It is evident that the purpose of teaching manufacturing processes must vary in different courses. In the fourth, fifth, and sixth grades textile topics consist mainly of a study of the textile fibers and of the fundamental processes involved in the making of fabrics. The selection of this aspect for these grades is based on children's interest in manufacturing processes, on the ease of correlation with the history and geography of these grades, and on the opportunity that it offers for working out the principles underlying the processes used in one of the fundamental industrial activities—the making of cloth. Such a study of textiles has many characteristics in common with the study of other industrial activities, such as paper, glass,

and concrete making. The fact that most of the processes in making yarn and fabrics are mechanical rather than chemical has made it possible to use this material for children in the lower grades. This study of industrial processes serves its chief purpose in increasing interest and intelligent thinking about the materials of daily life.

In the upper grades, the study of manufacturing processes is included in textiles for a more practical purpose—to assist in the discrimination of textile values. Appreciation of quality in fabrics may be increased by knowledge of the manufacturing processes through which the fabric passes, if the attention of the class is directed to the particular problems in manufacturing which affect value, such as those that influence the evenness, gloss, strength, and fineness of yarns or the durability of fabrics, rather than to the mere acquisition of facts in regard to the processes in making yarn, and the mechanics of weaving. Modern textile machinery is so complex that it is extremely difficult to give a study of machine processes any meaning. Furthermore, it is quite possible to understand such problems as the distinction between cotton and lisle thread and woolen and worsted yarns without going into all the details of the processes of carding, combing, and spinning.

In the study of textiles, manufacturing processes may be approached from two standpoints. The first begins with the preparation of fibers, followed by a study of the principles of yarn making and weaving, and last a study of fabrics and fabric finishes. This method, while it presents a logical development of the making of materials, requires some consideration of many processes which have little significance to the purchaser of fabrics. The second method starts with the finished material. In the analysis of good and poor quality in different types of fabrics and in the study of fabrics used by the students that have or have not

worn well, the points in their making that influence value can be easily demonstrated, such as the influence of quality and length of fibers, tightness of twist in yarns, or type of weave. This method of approach not only emphasizes textile values, but also greatly increases the interest of students. Another advantage of starting from the finished fabrics is that greater emphasis will be put on the weave and finish, for knowledge of these two processes has much more value to a purchaser of materials than knowledge of fiber and yarn preparation.

In order that the study of textiles shall result in more intelligent purchasing, it should include some study of the grades of each material to be found in the shops and some analysis of their value in terms of cost as related to wearing qualities and appearance. It is difficult to make the study of the cost of materials interesting. If this topic is made one of the problems included in the analysis of the cost of ready-made clothing, it will have some significance. To look up and report on the prices of dimity, lawn, and barred muslin has little interest as compared with making a study of the relation of the cost of the materials to the price of different ready-made summer dresses. There is a motive for studying prices in one case and there is none in the other.

Textile laboratory exercises. The identification of the fibers found in different materials is one of the laboratory problems used in most textile courses. In some cases, this includes only the simple physical tests of burning, breaking, and resistance to crushing, while in other courses identification with chemical tests and the compound microscope are required. The physical tests are not only simple to use, but they are the methods of identification used by a purchaser of fabrics. Students should have enough classroom experience in using these tests to identify at once the fibers

in almost any material submitted to them. Chemical tests are often used because they are spectacular and increase interest. They can be most valuable, however, if used to prove or disprove decisions reached by less exact methods, such as the "feel" of a fabric or of judgments formed from the general appearance of the fabric. Such points as the percentage of cotton in a mixed fabric or the identification of tussah or artificial silks can be more profitably shown by chemical tests. Other laboratory exercises are: (1) the analysis of the weave or other methods of making the pattern of fabrics from a large assortment of samples; (2) tests for the action of cleansing agents; (3) tests for fading, tensile strength, and wear under different conditions; and (4) experience in making choices for certain specified purposes from samples of different kinds and grades of materials.

Costume Design. In many schools no attempt is made to group into a special topic or course all the problems that have to do with the design and color of clothing. Such problems are included in the sewing courses. A certain amount of teaching of good design in fabrics and trimmings, good color combinations, the best lines to use for certain figures, shapes of necks, collars, and similar problems must be part of an effective and intelligently taught sewing course. This illustrates the incidental use of costume design topics that is found in both elementary and secondary school courses. Though such work is suggestive and valuable, it does not give students a fundamental understanding of the problems of costume design such as can be given in an intensive study of costume carried through a number of weeks.

Half-unit courses in costume design are offered in a few high schools. These are generally given as art rather than as clothing courses, though in a few cases teachers of

clothing have organized costume design courses of this length. When the work in clothing is too limited to allow for such an extensive study, the most significant problems in costume design may be organized into a major topic covering three to nine weeks' work.

The content of costume design courses and the methods of teaching these courses have been influenced in a large measure by the fact that they have been so generally taught as art courses. Their aims have been identical with those of general design courses: to increase appreciation and knowledge of what is intrinsically good in clothing as judged by art standards, and to give some experience in the creation of original designs that will illustrate the principles which are taught. The identification of costume design with the art department has emphasized the use of drawing and water color as mediums for illustrating costume problems rather than the more logical and practical method of using fabrics draped and modeled on a figure. Another characteristic of these courses is that the organization of topics is based on the study of the principles of design and color rather than on such concrete problems as the selection of a coat, hat, or dress, or the study of style. As in other subjects when principles are emphasized rather than applications, the practical results of such a course are disappointing unless it is given as a basis for the study of practical selection or designing problems in a later course.

While the main purpose of all costume design courses is to develop appreciation of good design in clothes, they are expected also to give ability in a variety of activities: ability to select a coat, hat, or dress that has good design and color, and lines adapted to the individual; ability to create designs to be used in the making of gowns, suits, etc.; ability to make usable working drawings and sketches of costumes. It is evident that in the short time given to

costume design in the schools it is impossible to give power in all of these, and the most important problem in the organization of such courses is to decide which of these activities will be of greatest value to the class in order to select the most effective type of class work.

Costume design includes four different kinds of work: (1) study of color and design in costume and their adaptation to the individual; (2) study of style and historic costume; (3) making original designs for different garments; (4) analysis of designs in ready-made garments and the choosing of clothing. All of these types of work may not be included in every study of costume design. Many courses emphasize the making of designs for use in the dressmaking classes, while others give greater attention to the study of ready-made clothing and its selection. All courses include some work in color, design as applied to costume, adaptation of designs to the individual, and historic costume.

Color and design in costume. Water colors are used in many costume design courses to illustrate values in color and color combinations. Though such work is most suggestive, and gives an opportunity to show quickly the proportions of different colors that are most effective in a complete design, the impossibility of actually representing the intensity and value of the colors in fabrics limits the usefulness of this medium. Discrimination in the analysis of color and in the influence of texture on color combinations can be secured only by a study of color in fabrics, for the identical color mixture in chiffon, satin, and velvet produces the effect of a different color value. This is a most significant factor in making a design for a gown. An opportunity to analyze the color of many materials on a color wheel and to select the amount and quality of color that will be most effective with different materials should be part of the laboratory work of all costume design courses.

One of the most difficult problems to teach is the analysis of the individual coloring of the members of a class, and the selection of colors that are becoming and that will enhance any attractive feature of their coloring. Unfortunately, in many courses the emphasis in this type of work has been placed on the prohibition of certain colors for special types of coloring rather than on making a study of the particular value and quality of each color that can be used most effectively by each individual. This has inhibited rather than extended intelligent use of color. In the desire to teach the selection of colors that are becoming, the pictorial value of color in clothes seen at a distance and against different backgrounds is not given the consideration that this problem should have.

A well-planned and harmonious costume illustrates the general principles of design as effectively as any other form of constructive work. The study of costume design may be used as a means of introducing students to these principles, or this course may follow one in general design. The growth of appreciation of art values is slow, and unless the costume design course is extensive enough to allow a fairly comprehensive study of design, it is almost essential that students should have some experience in working with color and design before attempting to study their applications in costume. A strong elementary school art course should give the basis for study of costume topics in the eighth grade and in the high school.

Illustrations of good and poor examples of space division, proportion in different parts of a garment, dominating lines, balance, and similar principles can be seen in drawings in fashion books, in clothing worn by members of the class, and in the shops and on the street. The most usual method of studying these problems in the classroom is through class study of exhibit material accumulated by

the teacher or by the class, and individual work in analyzing drawings in fashion books or in making drawings. To teach a class to make well-proportioned and lifelike drawings of full face or three-quarters face figures takes so much time and skill with a pencil that there seems little justification for the requirement of ability to make such drawings in most costume design courses. If it seems desirable or necessary for a class to illustrate different design problems by drawings, they can be given mimeographed copies of a satisfactory standard figure on which to represent the problem that they are studying. Figures traced from shadow silhouettes of the members of the class are most useful in studying the adaptation of designs to different types of figures.

Style and historic costume. In the selection of ready-made clothing there are three elements which mainly influence choices: color, kind and quality of material, and what is known as the style of the garment. This last term is used rather loosely to designate both the distinction of the design on which the garment is planned and its concurrence with the type of designs that are elected as the current fashion. Both of these elements must be considered in the study of style, for with the quick response of the ready-made clothing industry to every vagary of fashion, good selection is based on ability to discriminate what constitutes a good design in the "latest thing," as well as on general appreciation of good design in clothing.

The study of the designs of the prevailing fashion should be based on an analysis of the fashions of several successive years. This should include study of the silhouettes and of the characteristic lines, cut, fabrics, types of decoration, and center of interest in different garments. It should also include a study of the basis of typical costume styles, historic, national, and occupational. Historic and national cos-

tume is made a much more interesting topic when approached through a study of adaptations of these styles in present costumes, rather than through a chronological study of the costumes of different periods. Study of modern adaptations of historic costume and of current styles requires much carefully selected illustrative material and a large assortment of fashion books. These should be used not merely to illustrate the points brought out in class work, but as laboratory material for the use of the individual members of the class in selecting illustrations of particular problems, such as examples of extreme styles, styles controlled by the principles of design, styles adapted to different types of figures, etc.

Original designs. The extent to which the making of original designs for dresses and waists should be required in costume design courses depends upon the opportunity that is given to carry out these designs in the actual making of clothes. It is almost impossible to show actual effects with a drawing, and even modeled designs are often modified in the making of the garment. Unless a girl is really going to make clothes, she has no need for ability to make original designs, and when she does make them, she should have the opportunity to judge of the practicability or impracticability of her own design.

The value of drawings in the making of original designs has been much over-estimated. When skill in representation is made an element of a costume design course, much time must be spent in learning the technic of representing texture, folds, gathers, tucks, and other trimming details, as well as in the drawing of the figure in correct proportions. This is a highly specialized type of work, and its purposes should be clearly understood before its use is emphasized in secondary school courses. The power to make sketches to express ideas is most useful, especially

if such ability is constantly exercised through the demands of a vocation. There is comparatively little need for the making of drawings by the home dressmaker, but she does need to be able to interpret the drawings in fashion books.

In all costume design courses that are expected to contribute to ability to make clothes, some study of drawings in fashion books should be made. This should include consideration of the proportions of the figures used in different books and the effect of reproducing the same designs on the normal figures of the class. In order to reduce to the minimum the time spent by the class on making drawings, figures traced from shadow silhouettes of the members of the class may be used as the foundation on which designs are to be reproduced. Some experience should be given also in reproducing characteristic drawings in paper or cloth modeled on a figure in order to see whether they are practical working drawings or merely suggestive pictures. Any one who attempts to reproduce in fabrics a design from any of the standard fashion books finds that it is almost impossible to reproduce the effect that is pictured because the proportions of the drawn figure are wrong and many essential structural seams are eliminated in the drawing.

The most effective practical costume designing is that done on a dress form with fabrics. This is the only way to see the influence of the design, color, and texture of materials on the design or plan of the costume. In actual dressmaking most people select a general style or design that is adapted both to the individual and to the character of the materials that are to be used, and work out the detailed design on a form as they work with the material. If students can be given experience in designing with materials on a form in a costume design course before they undertake an advanced dressmaking course, it will contribute greatly to their skill and originality in the latter course.

It is somewhat difficult to plan for work of this type because it requires so much material of many varieties and grades. This should not be allowed to interfere with the use of this problem, however, as, in addition to class material that can be continuously reused, students are always interested enough in this work to bring many things from home to be designed in the class. Clothes that are to be remade offer a particularly valuable designing problem.

Hygiene of Clothing. The hygiene of clothing is one of the topics of clothing selection, though it may also be included in the study of family health and child care. As part of clothing selection, most of the hygiene problems may be discussed under textiles and under the study of style and suitability of clothing, though all this material may be grouped together as a special topic. The teaching of this topic consists usually of talks by the teacher and some reference work. When it is studied in connection with the care of infants and children, exhibits of desirable types of clothing and demonstrations of the proper methods of dressing a baby are also used.

The most interesting part of this topic is the study of the relative desirability from the standpoint of health of the various fibers and types of materials used for different garments. The interest of the students will be much increased by the use of a few experiments to show the physical characteristics of different materials, such as their power to absorb moisture, their permeability to air and moisture, their power to conserve or conduct heat, etc.

The Clothing Budget. The cost of clothing, the clothing budget, and standards of dressing are topics that receive increasing emphasis in clothing courses. The study of the clothing budget has been rather perfunctory in many courses, and has been more concerned with the accumulation of data on the amount of money spent by the students for

different garments and the number of garments purchased each year than with the explanation of the social factors that influence expenditures. Information about actual expenditures by members of the class should be the basis for discussion of clothing costs and standards, since discussions based on these facts have more vitality than a theoretical study alone. It is often difficult to secure exact data, for false pride or vanity usually will lead to padding of budgets. This is not a serious problem, however, as class discussion should emphasize intelligent expenditure and should lead to the establishment of reasonable standards for clothing allowances of different sizes.

One of the most difficult topics to teach in clothing selection is the establishment of standards of dressing—standards in regard to reasonable and profitable expenditures for different types of garments and standards of appropriateness and beauty in clothing. Standards of dressing cannot be imposed. They are too closely related to the social standards and activities of different groups; yet every girl will consciously and intelligently or unthinkingly and imitatively establish her own standard of dressing. If during the period when clothes become a real interest of girls they are led to consider some of the social and economic problems involved in the selection of their own clothing, it will give them the basis for establishing an intelligent standard for themselves. When all the members of the class come from families of about the same economic level, the study of clothing costs is much simplified, since class decisions on reasonable expenditure for hats, coats, dresses, and other articles will then represent usable standards for most of the class.

The discussion of the budget should include the two problems, the clothing budget for the family and the clothing budget for the individual. When only a short time can

be given to this topic, an instructor should select the aspects that will have most significance to the girls with whom she is working. The following outline shows the different topics that should be considered in a comprehensive study of the clothing budget.

The Clothing Budget

- I. Clothes for the family.
 - A. Percentage of total family budget spent for clothes.
 1. Standard allowance for different income groups.
 2. Variations.
 - a. Climate: protection from weather.
 - b. Locality: city, town, country.
 - (1) Needs of the life.
 - (2) Emulation of other members of social group.
 - c. Size of family and age of members.
 - B. Division of budget within family group.
 1. Ages and activities of different members of the family.
 2. Changes in relative expenditures of father and mother in different income groups; reasons for this.
- II. Clothes for the individual.
 - A. Percentage of wage to be used for clothes by girls in different wage-earning activities: stenographer, clerk, bundle wrapper, etc.
 1. Requirements of the job.
 - a. Actual needs.
 - b. Influence of good standards of dressing in getting a job.
 - c. Social pressure of standards of other girls similarly employed: wrong valuation, extravagances.
 2. Relation of clothing expenditure to that for food, lodging, recreation, etc., at different wage levels.
 3. Amount of time that a wage-earning girl can spend profitably on purchasing, repairing, and making clothes.
 - B. Basis for expenditure for different articles.
 1. Percentage of clothing budget to be spent for various articles.
 - a. Division on basis of outside garments, underwear, accessories, and sundries.¹

¹ Clothing for the Family. Federal Board for Vocational Education, Bulletin No. 23, page 34.

- b. Division on basis of dresses, coats, shoes, hats, etc.
- 2. Factors to be considered in deciding price of articles.
 - a. Standards of buying.
 - (1) Initial cost high, fabric good, style conservative on basis of two or three years' use.
 - (2) Initial cost low, style more extreme, fabric less good, to be used only for a single season.
 - (3) Initial cost high, style extreme, fabric good, a season's wear and then discarded.
 - b. Number of times articles are worn, and estimated price per wearing.
 - c. Relative price of ready-made and home-made garments.
 - (1) Wage earned by home dressmaker.
 - (2) Extent of use of home-made clothing by the class and its influence on clothes allowance.
 - Articles always home-made.
 - Articles often home-made.
 - Articles always ready-made.
 - d. Other factors to be included in price paid.
 - (1) Cleaning and repairing.
 - (2) Cost of remodeling when bought for several seasons' wear.
 - (3) Cost of accessories to be worn with garment.
- C. Standards of expenditure of the class.
 - 1. Adoption of reasonable budget for a schoolgirl.
 - 2. Distribution of purchases through two or three years.
 - 3. Establishment of the range of prices that should be used by the class in buying different articles of clothing during the current year.

Study of the clothing budget to be effective must be given enough time to include well-planned observation problems and reference reading. The accumulation of data in regard to the amounts and cost of clothing worn by the girls can be helped greatly by the use of carefully prepared blanks for recording all of the facts needed in the study. A formal record will not only make it easier to compare specific points in each budget, but it also will increase the importance given to the problem by the girls themselves,

particularly if the facts to be recorded and the character of the blank are decided upon by the class.

The study of the economic factors underlying the establishment of the prices of clothing is another topic that is often included in clothing courses, though it seems more logical to include this in a general study of the cost of household commodities such as would be included in a study of purchasing.

Millinery. Millinery is almost universally given as a specialized course; in most schools, in two short unit courses, summer millinery and winter millinery. It is offered with much less frequency than plain sewing or dressmaking; in the study¹ made by Andrews it was found in the elementary schools one-tenth as often as plain sewing and one-sixth as often as dressmaking, and in the high schools one-seventh as often as plain sewing and one-fourth as often as dressmaking.

Most of the millinery courses in the schools emphasize hat making rather than hat selection. These courses may include four or five different types of work: the making of hat shapes of wire or buckram with coverings of different materials; technical exercises in practice materials to show other methods of construction; the making of trimmings; the trimming of hats; a study of millinery materials and their care and renovation; a study of art problems involved in hat design. The emphasis that is given to each of these varies greatly in different courses, but in most cases the technic of constructive processes and hand skill are the elements emphasized rather than the more general problems of hat design.

There are several criticisms that may be made of millinery courses of the type outlined in the last paragraph. The most important is that such a course is better adapted to

¹ Education for the Home. Bureau of Education, Bulletin 1914, No. 37.

the needs of a trade worker or to the girl with native ability in hat designing than to the needs of the average girl, who has never analyzed the shape and proportions of hats or observed the way various effects are obtained. Will not the girl who understands the problems of hat design be more apt to remodel her old hat or make a new one, even though she has less skill and must use commercial trimmings and commercial shapes, than the girl whose training has emphasized constructive processes and hand skill? The most effective millinery course for elementary and secondary school classes would seem to be one which emphasizes hat selection and designing with some experience in the most commonly used processes of hat making.

Another disadvantage of a millinery course that places its main emphasis on technical skill is that the inclusion of a large number of technical processes in a course generally results in the elimination of problem-solving methods of teaching and the use of explicit dictated directions for all work, with a consequent loss in the educational value of the course. Though it is possible to use a problem method of teaching constructive processes, as was noted on page 106, there are more problems involved in the study of the characteristics of different hat shapes, a selection topic, or in working out the best method of making an original hat shape, an advanced problem, than are to be found in the making of a plain wire frame, such as is found in millinery courses for beginners. Problem solving and hand skill may both be objectives of a course, but there can be only a limited accomplishment in each of them in the short time given to millinery courses, and as a result the teacher who is interested in technical skill usually emphasizes hand training.

Hat selection may be taught separately from hat making as part of a clothing selection or costume design course.

A fairly comprehensive study of hat selection is usually included in millinery courses planned for students who are specializing in millinery in the technical high schools. There is evidently need, however, for greater use of hat selection in all millinery courses. This topic, like other selection topics, is undoubtedly made more significant through some experience in working with materials. The analysis of the hats belonging to the students, the selection of shapes for different girls; the placing of trimming to show how different effects can be produced, all are valuable. The following outline gives the main sub-topics that should be included under hat selection:

1. Study of outlines, proportions, color, and lines of trimmed and untrimmed hats to show applications of good and poor design.
2. Study of the values of millinery textiles and trimmings as related to durability and cost.
3. Analysis of adaptation of hats to the individual.
4. The relation of the hat to the rest of the costume.
5. Study of the characteristics of current style and that of preceding seasons.

PROBLEMS

1. For what groups of students would you advise giving a clothing course with the main emphasis on clothing selection?
2. Outline the topics of a clothing selection course. How much time would you give to such a course and in what grade would you offer it? What relation should it have to the sewing courses?
3. Select some town or city in which you are thoroughly acquainted with the shopping facilities, and outline the methods that you would use to provide an opportunity for your class to see and study clothing for sale in the shops.
4. Outline some concrete textile problems that will be interesting enough to an eighth grade class so that they

will be led to look up manufacturing processes in order to solve the problems.

5. How much class time should be allowed for a comprehensive study of the clothing budget? What methods of introducing this topic will assist in giving the right attitude towards the collection of data from the home and will enlist the coöperation of the mother?
6. Outline the topics of costume design that you would include in a dressmaking course if no other work in costume design were possible. How much work in drawing and water colors will you use?
7. How much time does it require for a study of historic costume?
8. How much work in millinery would you include in a ninth grade general clothing course? What type of work would you use?
9. Is it possible to use a problem method in the study of the hygiene of clothing?

CHAPTER VII

THE HOUSE AND ITS SELECTION, PLANNING, DECORATION, AND CARE

OUTLINE OF THE CHAPTER

HOUSING.

- House planning and selection.
- Housing standards.
- House plans and building construction.
- Domestic architecture.
- Cost of housing.

HOUSE DECORATION.

- Design in household furnishings.
- Room plans and designs.
- Quality and cost of furnishings.

HOUSEWIFERY.

- Cleaning processes.
- Study of time value.
- Repair of furnishings.
- Laundry work.
- Household mechanics.

Housing. House planning and house selection may be made major topics in a housing course, or the æsthetic, scientific, or social economic aspects of these topics may be studied separately in courses on house decoration, house sanitation, or household management. The selection of the site of the house and the heating, lighting, ventilating, and plumbing are housing topics included in all house sanitation courses. Household management courses usually include a study of the business aspects of house selection, such as rentals, leases, advantages of ownership, etc. The architectural study of the house is often coördinated with the related art problems of furnishing and decorating the

home in a house decoration course. A comprehensive course on the house should consider all these aspects.

House planning and selection. The distinction between house planning and house selection is not clearly drawn in most courses, for some study of both of these is generally included. Such a distinction is valuable, however, as a means for defining more clearly the content of a course and as a basis for the choice of the topics that will be of most value to a particular group of students or for short courses. *House selection* is concerned with a study of housing standards and values. Its purpose is to give practical assistance in the selection of a house or an apartment and to give an understanding of community housing problems and conditions. House selection places more emphasis on the establishment of standards of healthfulness, comfort, and convenience as related to the rental that is paid than upon the establishment of art standards. *House planning* places greater emphasis on the architectural aspects; the study of plans and their making and the materials used in construction. While this study serves its chief purpose in giving practical suggestions to the students who will undertake the building of a home, it should lead also to an interest in and appreciation of the good architecture of the community and of the value of plans for beautifying the town or city.

Courses on the house have in many cases given much more emphasis to the study of plans than to the problems of selection. This has been due to the fact that the drawing of plans furnishes a practical laboratory problem which is always of interest to the students, and as a result the teaching has centered around this interest. House selection does not furnish so ready-made an interest, but a careful survey of the housing problems of the community will show many concrete problems that may serve as the basis for en-

thusiastic investigation and study. Emphasis on house selection, furthermore, does not mean the elimination of all drawing of plans, for a study of room arrangement is as vital a problem in the selection of a house as in the making of the original plan. The drawing of floor plans and elevations in a house planning course furnishes the concrete problems for the study of household architecture, while in a house selection course the drawing of plans becomes merely a laboratory exercise in the study of a smaller topic.

The extent to which house selection or house planning will dominate a course should depend on community needs and the purpose of the course. In rural, suburban, or small town communities where most of the families own their homes, quite a different situation is seen from that of a city where most of the students live in rented houses or apartments. While some experience in making plans that may be used for a new home or in remodeling the old home may be most valuable for the first group, a study of the problems to be considered in renting a house and of the essentials of good housing under city conditions are more important aspects for the urban group.

Housing standards. A course on the house should include study of community housing problems and of the standards that are desirable for the particular locality. This means that field trips and individual investigations should be made an integral part of the course and that the projects and problems undertaken must be concerned with actual housing conditions. Observation of the sanitary condition of houses or apartments in different localities or a trip with a sanitary inspector will give real significance to a study of housing ordinances. A study of the actual rental paid in different parts of a town will show the influence of civic improvements and social evaluation on rents and the standards of comfort and healthfulness that can be secured for a specified amount.

The efficiency of a community is so closely associated with the sanitary conditions of dwelling places that the establishment of sanitary standards should be one of the main problems of housing courses. It is obvious that the type of work will vary greatly with the group that is being taught. The care and sanitary use of the house may be the point of emphasis needed by some groups, while a study of drainage, water supply, methods of disposal of waste, and similar topics may be of greater value to a rural group. Where sanitary standards are high and well defined in the minds of the girls, the work on this problem should emphasize community needs and standards in order to increase the civic interest of the class.

Courses in general science, biology, and hygiene generally include a study of the scientific principles underlying good ventilation, the need of sunlight and a sanitary water supply, and the proper disposal of waste. The function of the housing course is to interpret these principles in terms of the size and position of windows, the use of ventilating devices, the relation of the heating plant to ventilation, the maintenance of dry, well-ventilated cellars, types of plumbing appliances, etc. When a study of these scientific principles is not included in other courses, it should be incorporated in the housing course. The homes of members of the class and buildings in the process of construction or for rent should offer the concrete illustrations of different heating, plumbing, or ventilating systems.

House plans and building construction. The study of the size and arrangement of rooms, the arrangement of closet and storage space, the position of porches and entrances, and similar problems is an important aspect of a housing course. The drawing of floor plans to illustrate an ideal arrangement is the method most often used in studying these problems. If house selection is emphasized,

the study of the floor plans of actual houses and of the various ways in which minor alterations might make them more comfortable and convenient furnishes a more profitable method. Such problems as the drawing of detailed plans for built-in bookcases and china closets or for re-shelving closets or storage space give practical experience in a type of house planning that most homemakers use.

The size of the family and the activities of its members are important factors in the selection of a house. Study of the housing requirements of a family is often undertaken through the selection of an apartment or house at a certain rental that will fulfill the needs of a typical family decided upon by the class. This will necessitate field trips to investigate available houses or apartments. The drawing of house plans that will meet the special requirements of different families is another way of emphasizing this problem.

There are some points about building construction, such as weather-tight doors and windows, sound-proof and well-laid floors, substantial rails and supports on porches, quality of woodwork, etc., that should be considered by any one renting or buying a house. Such points should always be noted whenever a class is studying the actual value of various houses, but there seems to be no real need of making the study of building construction one of the major topics in a housing course.

Domestic architecture. A trip through almost any city, town, or country side will show the need of creating more general interest in architectural design. A study of domestic architecture may be made a logical part of the general work of the art department, or it may be associated with other housing problems in a house course. The average house illustrates two deficiencies: lack of distinction in the general design, and poor design in the details, such as size and shape of doors and windows, treatment of porches,

proportions of the roof, etc. A study of the types of architecture used for houses, and of the principles of design that are the basis of good detail, must be included in any effective course on domestic architecture.

Types or styles of architecture are generally studied from an historical approach. There is a wealth of illustrative material in picture form which shows historic buildings and modern adaptations of these types, and in many towns and cities there are excellent examples of period architecture. If the purpose of such work is merely to stimulate an interest in civic beauty, it may consist of one or two well-illustrated talks, in which as many local illustrations as possible are used. More extended work, including the making of original plans for houses based on historic types and a thorough study of the characteristic details of each period, is undertaken in some courses. In many places the student will have practically no opportunity to see or judge buildings based on period architecture. It is evident that under such circumstances, information of this type, while it may be of interest to individual members of the class, will not be of great enough significance to most of them to make it a live problem. Historic architecture should not be studied just for information, but as a means for judging the excellence and beauty of buildings, and its chief purpose in secondary school courses is to stimulate interest and intelligent observation of good types of domestic architecture.

Both the exterior and interior of houses furnish illustrations of the good and poor use of principles of design. Exercises in selecting and sketching examples of good design that will make students analyze the architectural designs in their own houses are most valuable, for realization of what is really good among one's possessions or surroundings is indispensable in developing æsthetic appreciation.

The cost of housing. The study of housing costs has not been emphasized in many courses. The reason is that such a study has no vitality unless it deals with actual costs, and it is more difficult for a class to secure information about the cost of house construction than about clothing or food costs. In some courses emphasizing house planning an attempt has been made to study the cost of building construction, such as the relative cost of frame, brick, concrete, and stucco houses, different heating systems, etc. The value of such work is very doubtful. It is a type of information which is useful only to the person who is actually going to build, and, furthermore, it necessitates a much more detailed study of building construction than is profitable for secondary school students.

The standards of housing that may be secured at definite rentals in different parts of the town or city and a study of the factors entering into the actual rent paid for a home are the cost topics that are likely to have the most value to all the students in a class. This last topic should include a study of the "rent" paid by the house owner, such as interest on investment, taxes, deterioration of buildings, changes in land values, etc., and of the factors which should be included by the householder in rent, such as janitor service, heating, water rates, essential transportation, etc. The rent costs in the girls' own homes and the cost of houses in their neighborhoods that are for sale or for rent should furnish the practical problems for these topics.

House Decoration. House decoration courses present many problems in common with costume design courses. There is the same need for appreciation and understanding of the principles of design as a basis for the judgment of good design in furnishings as in costumes, and there is the same need for working with practical problems and actual materials. The course in house decoration in many places

is offered by the art department rather than by the home economics department. In such a case it may be given as a special course in the secondary school or illustrations of the application of design in household furnishings may be used throughout the general design work of the elementary and secondary schools.

House decoration courses which are to be of practical value to the homemaker must give not only the basis for judgment of what is intrinsically good, but they should also give training and experience in choosing and arranging furnishings and selecting decorations. The selection of furnishings for a house or a room may mean either the selection of all furnishing, in which case each element (walls, furniture, curtains, etc.) is related to a well-conceived plan for the whole, or it may mean the selection of an individual piece of furniture, new wall paper, curtains, etc., to be fitted into the more or less haphazard furnishings of the average house. The latter type of selection is found in most homes, though the refitting of a new house for the family or the establishment of their own homes will give many girls an opportunity to carry out a complete decorative plan.

Since the replacement and the arrangement of furnishings are the most common house decoration problems, practical exercises should be planned in the form of individual home projects or class projects which will give this type of experience. The greatest difficulty associated with such projects is that the art standards of many homes differ widely from those of the classroom, and even from those of the girls themselves. In most localities, however, it should be possible to find a few homes in which the selection of new wall paper, new curtains, or new rugs could be made a class project. Practical selection problems not only give an opportunity to carry out a plan in actual materials, but they also serve as a means for studying the

grades and qualities of household furnishings that are to be found in the shops and as a basis for the study of furnishing costs.

The arrangement of furniture and rugs in a room and of pictures and other minor decorative features is a problem that can be carried out in almost any home if real cooperation between the school and the homes of the class has been established.

Design in household furnishings. The study of standards of design in household furnishings is the major topic in house decoration courses. When a house decoration course is offered without the requirement of general design in the previous art courses, time must be allowed for a study of the principles of design. By this is not meant that a part of the course should become a conventional general design course, but that the principles of proportion, balance, symmetry, rhythm, subordination, accent, etc., should be constantly illustrated and emphasized in the study of good and poor design in rugs, lamps, wall paper, hangings, furniture, and other decorative features.

The making of original designs for household furnishings is seldom included in house decoration courses. This is a recognition of the fact that ability to select a good design does not necessitate training in making designs. Training in analyzing the design of all articles used for house furnishing or decoration and experience in making selections are the two requisites of training which aims to establish standards of selection. Illustrative material should be accumulated by students from catalogues, magazines, and tracings from books. Exhibits of wall paper, draperies, rugs, etc., may be borrowed or rented from various shops to augment any illustrative material that may be the permanent equipment of the house decoration classroom. Class field trips or individual or group investigations should be

used to study the standards of design to be found in the shops of the community.

Examples of good designs can be found in the shops or in pictures of historic or period furnishings. Almost any discussion of good lines in furniture will include examples of some historic types, since these represent the survival of the best designs of each period. How exhaustive the discussion of historic designs will be should depend upon the group and upon the opportunity that the community affords for seeing historic furnishings or their reproductions. A study of period furniture is included in many secondary school courses, but less attention has been paid to historic designs of other furnishings. The designs used in household fabrics—rugs, hangings, upholstery, etc.—and in decorative needle-work of various forms is a topic which is given much more interest by a study of national and period types.

Needle-work has always assumed an important place in household decoration, and many homes are filled with evidences of an undisciplined desire to enrich household textiles. Decorative needle-work is usually taught in clothing courses rather than in house decoration, and emphasis is given to training in handwork rather than to the design. Some study of effective use of needle-work in house decoration and of good needle-work designs is a topic that should more often be included in house decoration courses.

Room plans and designs. In planning the furnishings for a room or a group of rooms, it is necessary, not only to have ability to choose good designs in rugs, hangings, furniture, etc., but also to have power to combine the wealth of detailed design into a harmonious whole. The design of a particular piece of upholstery material may be beautiful in itself, but the scale of the design may not fit into that of the room; or a color combination may be delightful yet of

the wrong value to be harmonious with adjacent furnishings. To bring harmony into a room means that the grouping of furnishings, the combinations of color and of detailed designs must be planned or designed. Such planning or designing is a most important part of a house decoration course.

To give students experience in room designing that will be of practical value to them, the study of this problem should include projects of decorating or re-decorating some particular room as well as the making of designs for an ideal room. Laboratory work in room designing consists of: (1) selecting the furnishings of the room from exhibits; (2) drawing floor plans to show the positions of rugs and furniture, and wall plans to show the arrangement of pictures, curtains, etc., on wall spaces; and (3) the making of a color plan.

It is desirable to have a class project in room planning precede any attempt at individual projects. While it is most valuable for a class to undertake the actual decoration of a room, this requires so much time and represents such an outlay of money that the complete carrying out of a room design project is not often feasible unless a school is planning to furnish a practice house. It is often possible, however, to find some home where the class could work out several suggestive plans for redesigning a room, and, later, study and criticize the result as carried out by the owner. Such a project would require a class trip to study the room and a few visits by groups or individuals to try out various materials or colors, but most of the work of this project could be carried out in the classroom, if photographs and measurements of the room and its furnishings are taken.

As in the teaching of costume design, water colors have only a limited value in the study of color in house decora-

tion. Water color sketches may be suggestive in planning color schemes for rooms, but they must be supplemented by work with materials. The study of color combinations in house decoration is strengthened by the use of actual furnishing problems, for these usually require the harmonizing of a number of different colors, which is a much more difficult problem than the making of a color scheme in which different values of one color predominate. Just as an Oriental rug illustrates the combination of a wealth of detailed design and many colors into a harmonious whole, so may a room contain great variety in color and design. In the desire to simplify the decoration of the home, many teachers emphasize the making of color schemes in which a single color predominates, and the more common and more difficult problem of harmonizing a variety of colors is not undertaken.

The quality and cost of furnishings. Knowledge of furnishing costs serves two purposes: (1) it gives an appreciation of the cost of equipping a house and of the standards of furnishing that can be secured for a specified amount; and (2) it will help in deciding upon the amount of money that should be allowed in the yearly budget for the repair and replacement of furnishings. The study of furnishing costs may be undertaken as part of a project of selecting new furnishings for the girls' own homes, or it may be made a part of the school problem of furnishing an ideal house or apartment.

For a study of costs, the assignment of a special room or a type of furnishings, such as bedding and napery, curtains, rugs, etc., to a group of girls, is one of the most satisfactory methods, since group conferences stimulate interest. The accumulation of data in regard to furnishing costs should not be the main purpose of these assignments. Each group should have one or two clearly defined problems in

the solution of which they will need information in regard to the cost of furnishings. The following are illustrations of problems of this type:

GROUP I.

Problem 1. Select the type of floor coverings for all the rooms of a house which will give the maximum wearing quality according to the use of the rooms.

Problem 2. What difference in type or grade of rug or floor covering would you make in each room when cost must be decreased? What would be the minimum cost of your first selection and the lowest allowance that will assure good quality?

GROUP II.

Problem 1. Select the grade and quantity of furnishings necessary for the complete furnishing of a bedroom with an allowance of \$150.

Problem 2. If your allowance is reduced to \$70 will it pay to maintain the same quality in any articles of furnishing?

Housewifery. Housewifery, or the care of the house and its furnishings, may be taught in the elementary and secondary schools as a special subject, or various house care topics may be given in courses on food or household management. In most schools, housewifery consists of a study of cleaning agents and equipment and of the methods of cleaning that should be used in the care of the house and for each of the materials used in furnishings, such as different woods, glass, metals, fabrics, etc. When greater emphasis is given to housewifery, it may also include: (1) study of the time that must be spent in the care of the house and of the labor saving appliances or commercialized agencies for caring for or cleaning household furnishings that may be used by the housekeeper; and (2) the establishment of standards of daily, weekly, and monthly care, such as can be maintained with different amounts of service.

The effectiveness of a course in housewifery is conditioned largely by the opportunity offered for studying these

problems under actual living conditions. This means that home projects are an essential element and that a practice house furnishes the best laboratory conditions for class work. Few secondary schools are equipped with a practice house in which a group of students can live; the most usual equipment is a model apartment. While such an apartment is valuable for illustrating house care problems, it does not furnish as many of the practical situations found in a real home as does a practice house, and its use should always be supplemented by home projects.

Cleaning processes. The study of cleaning agents and equipment and of such processes as the cleaning of wood, windows, silver, brass and other materials, the care of the icebox, cleaning closets, and similar problems can be carried out successfully in a cooking laboratory. In order to extend the laboratory opportunities of the classroom, special equipment for laundry work and bed making is also included in many schools. Classroom laboratory work in housewifery problems, except in laundry work and the care of the kitchen that is associated with food courses, consists of experiments to discover the efficiency of cleaning agents or equipment, and demonstrations of methods of working in cleaning processes. The acquisition of skill in these processes and the development of judgment as to the type of care to be given under different circumstances are objectives which need extended practice under normal home conditions. The outline of an elementary home project on page 49 illustrates the interrelation of classroom work and home projects in housewifery courses.

Skill in house care means skill both in manipulation and in organizing a piece of work. The study of effective and waste motions in performing a job and of effective planning or routing of the work should be part of all housewifery courses. This should include observation problems of work

being done in cooking laboratories and in the homes of the girls, class analysis of the organization of a piece of work, and individual experimentation under home conditions with different methods of working. One of the greatest difficulties with motion studies is that a change in the method of doing a familiar act will always reduce the speed of the worker, and it requires a scientific interest on the part of the students to assure persistence in the use of the new method. The chief value of such studies is that they give a method of analysis which should assist students in controlling the conditions of a new problem.

Study of time value. Courses in housewifery have been more concerned with the giving of information about cleaning materials and equipment and cleaning methods than with the study of the cost of cleaning as expressed in the time required to maintain different standards of house care. In fact, many of the cleaning methods and standards of house care used in these courses are unnecessarily time consuming. Daily washing of the icebox and the removal of all covers and turning of the mattress daily in bed making are examples of extreme standards. The study of the value of the housekeeper's time and the cost of different housekeeping activities is one of the most suggestive and valuable problems. Knowledge of the actual cost of keeping a scrubbed floor clean in a kitchen will reconcile any home manager to the initial expense of linoleum. Knowledge of the cost of keeping a silver service on display in a dining room will help in simplifying housekeeping standards. One of the reasons for the slow increase of the use of labor-saving appliances in the home has been the failure of women to estimate the value of their time.

The study of the time required to perform different pieces of work and the investigation of the cost of employing different grades of labor or commercial agencies to do

similar work within or outside the home are problems which should assist in giving proper valuation to the time the housekeeper spends in caring for the house. Time records should be kept by students in all home projects in order that the class may have data for deciding upon a reasonable time allowance for each type of work. It is evident that the time that will be required to clean a room, polish silver, wash and put away dishes will depend upon many factors: the skill of the worker, the amount of cleaning which the room needs or the number of dishes, the conditions under which the job is done—labor-saving appliances, convenient equipment, etc.—and the standards of work which will be accepted as a completed job. In spite of the difficulty of establishing exact time standards, the study of this topic should assist a girl in deciding upon the standards of house care which can be maintained where all the work must be done by the homemaker or where paid service can be used; it should also demonstrate the burden that useless furnishings and decorations add to the housekeeper's work.

Repair of furnishings. The repair of furniture is another topic often considered in housewifery courses. This topic usually includes a study of woods and wood finishes and some classroom experience in painting, refinishing, or patching mars on oiled, shellacked, or varnished furniture or woodwork. Knowledge of woods and wood finishes is valuable both as a basis for an understanding of the proper care of woodwork and furniture and as assistance in the selection of furniture. Laboratory work in the repair of furniture is seldom satisfactory, unless very simple problems are undertaken. The refinishing or the patching of the finish of good furniture is not only a job requiring skilled work, but many of the processes, such as frenching and rubbing down shellac or varnish, require muscular strength.

The renovation of furniture, the repair and cleaning of carpets and rugs, the cleaning of wall paper, the dry cleaning of clothing, etc., are illustrations of household activities which because of the difficulty of the work or the need of specialized skill or special equipment have become commercialized activities. The extent to which a housekeeper will use commercial agencies for such work will depend upon their availability, the value which she puts upon her own time and strength, and the amount that she can spend for outside service in the care of her house. It is evident that the emphasis given to the study of these activities in home economics courses should be influenced by the needs of the group.

Laundry work. Laundry work, or the cleaning of household fabrics and wearing apparel, is another type of household work that is assuming increasing importance as a commercial activity, though it is still retained in part or wholly in many households. In the schools, laundry work has been given more emphasis than other housewifery problems. This is due largely to the fact that it is comparatively easy to adapt laundry work to the conditions of a school laboratory, which is not true of many other housewifery problems.

Laundry courses are generally divided into three main topics: (1) the study of cleansing agents and their action upon different fabrics; (2) laboratory work in the technics of washing and ironing; (3) study of laundry equipment and the comparative cost of laundry work done in the home and by commercial laundries.

The first of these topics is often included in textile courses in schools where laundry work is not emphasized. Such an organization is quite logical, for intelligent use of cleansing agents is dependent upon some knowledge of the different textile fibers. Experiments with different chemi-

cals and other cleansing agents on trial pieces of cloth and practical work in the removal of stains from wearing apparel or household textiles are the types of laboratory problems used in studying this topic, in both textile and laundry courses. Emphasis is given to this topic in laundry courses because of the interest of the girls, and because it presents problems that require definite information and accurate thinking.

Washing and ironing, the two practical activities of laundry work, differ somewhat in their demands upon the worker. Washing operations require rather easily acquired movements, but they necessitate the use of a good deal of muscular effort unless labor-saving appliances are used. It is because of this that many housekeepers are using the commercial wet or rough dry wash or are acquiring washing machines. Under these circumstances, the purpose of instruction in washing should be to demonstrate the special handling of woolens, fine fabrics, the special cleaning of parts of garments having the most wear, and similar problems, and to emphasize the value of using labor-saving methods. Ironing is a more highly skilled type of work than washing, and to secure skill it needs extensive practice. The requirement of home practice will reduce the amount of time that must be spent in class on developing skill in these two activities.

Laundry courses are given primarily to develop judgment as to the best methods of handling different fabrics in the cleansing process and to give classroom experience which will lead to ability to do laundry work skillfully. If these courses are to be of the greatest benefit to a group, however, they should include in addition a study of the cost of laundry work to the housekeeper in effort and time and of the value of employing commercial agencies for all or part of the family washing. The stimulation of interest in

the establishment of a coöperative laundry in a rural community may be the most valuable contribution of a laundry course in a county high school. The study of the different types of commercial work that can be found in the locality, such as the wet and dry wash, flat work, or family washing, and of the standards of work and cost of using such agencies, should stimulate intelligent use of time-saving agencies in a group of an urban high school.

Household mechanics. Household mechanics or household physics courses should be closely coördinated with house and housewifery courses, for they include a study of the principles of mechanics, light, heat, electricity, water and air pressure, and similar topics, which give the basis for the intelligent selection and use of house equipment and labor-saving appliances. A household physics course may include so comprehensive a study of the lighting, heating, and ventilating systems of the home that these topics can be eliminated from the house course.

Where household physics or mechanics is not offered as a separate course, house and house care courses should supplement the general science course and include enough study of the principles of physics and their practical application to assure intelligent practices in the use of equipment and appliances. Physics topics should be introduced into the house or house care courses when the needs of a project necessitate an intensive study of some problem that involves an application of physical laws. Assignments for reading in standard household physics or general physics texts and demonstration experiments and discussion in the classroom are the most effective methods for studying these problems.

PROBLEMS

1. Outline the points in regard to local housing conditions that should be investigated before deciding on the content of a house selection course. With what agencies

- would you need to coöperate in your own community in order to secure accurate information as to housing conditions?
2. What are the purpose and the value of a study of building construction in secondary school housing courses? What methods would you use to make this topic of interest to students and to provide problem-solving situations?
 3. What methods and problems would you use to create interest in a study of good designs for tables and chairs? What points would you develop in a study of needlework in home decoration?
 4. What are the advantages and disadvantages of having house decoration taught in art courses?
 5. Explain the emphasis given to metal cleaning in most housewifery courses.
 6. Outline the methods that you would use to teach bed making in order to secure high standards, skill, and speed from all the members of a class.
 7. Observe a class cleaning in a food laboratory and make a list of the most common causes of time wastage in such classes. Compare the methods of working of the slowest member of the class with the fastest. Taking one of the operations performed by the class, outline the best arrangement of equipment and position of the worker and the best sequence of motions required in the operation.
 8. Under what circumstances would you eliminate laundry work in the outline of home economics courses for a secondary school? What laundry problems would you include in elementary school courses?
 9. Outline the work in housewifery that you would do if the purpose of your course is to stimulate intelligent thinking about house care rather than to give training in the technic of house care.

Supplementary References

- Publications of the National Housing Association, 105 East 22nd Street, New York.
- U. S. Department of Commerce, Circulars of the Bureau of Standards.
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- Articles in the *Industrial Arts Magazine*.

CHAPTER VIII

HOUSEHOLD MANAGEMENT, AND THE FAMILY AND ITS CARE

OUTLINE OF THE CHAPTER

HOUSEHOLD MANAGEMENT.

CONTENT AND AIMS OF COURSES.

THE MANAGEMENT OF LABOR.

Value of time.

The use of the paid worker in the home.

THE INCOME AND THE BUDGET.

The income.

Personal and family budgets.

Household accounts.

Banking, credit, spending, and saving.

PURCHASING.

FAMILY HEALTH AND CHILD CARE.

HOME NURSING.

CHILD CARE.

THE FAMILY.

HOUSEHOLD MANAGEMENT

The methods of teaching household management are less clearly defined by text-books or by tradition than those of teaching foods and clothing. This is due to several factors. The lack of a clear definition as to the content of household management courses has prevented any uniformity in the subject matter included in these courses, with the consequent difficulty of comparing and standardizing methods. The fact that household management is offered with much less frequency than food or clothing courses has resulted in fewer text-books being written on this subject. Probably

the most important factor, however, has been that the objectives of household management courses are less concrete than those of food and clothing courses. This has made the teaching of the household management courses a more difficult problem.

Content and Aims of Courses. Household management courses may be divided into three types: (1) those that are concerned with the management of the material resources and of the financial and labor problems of the home, and with the study of the economic and the social conditions that will influence or control such management; (2) those that give less emphasis to the study of social economic principles and include instead a limited study of the methods of management used in the home and a detailed consideration of such preliminary topics as the selection of household equipment and housewifery; (3) those that include any aspect of homemaking activities that may not be included under cooking and sewing courses—housewifery, planning and serving meals, laundry work, home nursing, care of children, etc.

Good management in a home, in a business, or in any other form of social or economic organization must be based upon some fundamental knowledge of the resources and activities of the institution or organization. It is evident that a discussion of the management of household labor will be much more effective if all of the class have definite knowledge of the cost of home care activities in terms of the effort and time required to perform them. Similarly any real study of budget planning must be based on knowledge of the cost of rent, food, and clothing. If these topics have not been studied in food, clothing, and housing courses, it seems almost essential to include them in the household management course. The danger of this is that housewifery, laundry work, and home furnishings usually become the

major aspect of the course, and the problems of management and training of the manager are quite subordinated. For this reason the first of the courses outlined in the last paragraph is the type that is most accurately described as a household management course, since it emphasizes the managerial aspects. It is evident that courses of this type should be offered in the senior high school, where the students have more maturity and ability to understand social and economic relationships. The household management courses as usually offered in the elementary school or junior high school are illustrated by types 2 and 3.

The managerial or supervisory activities of the homemaker include different aspects of management, such as: (1) the management of the family income in such a way as to secure the maximum satisfaction and efficiency for the family; (2) the management of the work of the house in order to maintain a high standard of housekeeping with least labor and time expenditure; (3) the management of children—their care and training; (4) the creation and control of the social relationships of the family—recreation, hospitality, etc. Household management courses offered in the secondary school usually include a study of the income and its expenditure and the organization of household labor. The management of children and the social relationships of the family are topics that belong in a study of family life which may be offered as a separate course.

The primary purpose of household management courses is to give training that will help to develop social ideals as to the economic relations of the home and society, and judgment in the use of the material resources and in the control of the financial and service problems of the home. Such an aim means that instruction in these courses should not be confined to the mere giving of information or to theoretical study of principles, but that it should be organ-

ized around the study of actual situations, and that some opportunity should be given to carry out problems of management in a practice house or through home projects. Another requirement of this aim is that in the study of the specific problems students should be led to see not only the best solution of the problem for that particular household, but also to see its relation to economic and social laws.

Many household management courses have been weak in that the problems undertaken are studied in such a limited way that they are of little help in solving the social and economic problems of the home. The problems of domestic service are due primarily to the failure of homemakers to appreciate or consider the conditions of work and of time and the forms of payment accorded to other labor groups, and to false social standards. Efficient purchasing means not only knowledge of the intrinsic values of different articles, but a fundamental understanding of the laws controlling price, and appreciation of the economic and social force of intelligent demand. The planning of a budget is not an accounting problem, but a study of social values. It is evident that an effective household management course must include some study of these basic elements.

Food, clothing, laundry, and housewifery courses can be organized in such a way that ability to cook, sew, or clean may be the primary objectives of the course. Ability to perform these direct labor activities requires skill of hand, understanding of the characteristics of the materials that are used or of equipment, realization of the scientific or artistic basis of the processes, and organizing skill in planning the job. While the degree of skill that can be attained in these activities by secondary school students will vary with the methods of teaching that are used, with the time allowed for training, and with the emphasis given to the acquisition of skill, ability to perform is an attainable ob-

jective for courses in food, clothing, laundry, and housewifery. Ability in the management of the household is not an attainable objective of secondary school work. The lack of experience and immaturity of the students and the complexity of the problems make it essential that the study of management problems rather than the training of the home manager must be the purpose for these courses. Home and school projects that require the organization and complete carrying out of a job furnish an excellent method of giving students experience in the management of special problems, and such experience should contribute to the development of general managerial ability.

The Management of Labor. The problems of the management of labor and time in the home can be studied best through the assignment of problems for investigation by the class, with discussions based on the information that has been secured by personal investigation and from assigned references. The character of the problems or projects used in the study of time and labor should be defined by the standards and activities of the households from which the girls come. While the purpose in the study of this topic is to broaden the girls' understanding of efficient use of time and to give them experience in analyzing different ways of reducing labor in the home, it is most important that the conclusions reached by the class discussions are workable solutions for the problems and represent the best experience of the homes of the class.

Value of time. The ability to estimate the value of her own time is one of the essential qualities of an efficient homemaker. Such valuation can be expressed in two ways: in monetary terms of her actual contribution to the income of the family, and in terms of satisfaction to the family. The popular conception that a good mother and homemaker is above price has ignored the fact that failure in home-

making is in many instances the result of wasteful methods in the use of the income and the time and ability of the homemaker. While it may not be possible to place the same exact valuation on the time of the home worker that is placed on the time of a worker in commercial and industrial activities, the fact that many home activities are performed by commercial agencies or by paid workers makes it possible, with a fair degree of accuracy, to place a money value on time spent in these direct labor activities. It is far more difficult to estimate the value of time spent on the management or supervisory activities of the home. It is evident, however, that such activities bring a high return to the home, both in terms of satisfaction to the family and in saving of income, and therefore they should represent greater earning power just as the wages paid to the manager, superintendent, or purchaser of a manufacturing concern are greater than those paid to the direct labor.

Household work may be classified as follows: supervisory activities—purchasing, planning, and directing work, planning expenditures, etc.; producing activities—cooking, sewing, cleaning; service activities—answering the door or telephone, waiting on table, personal service, minding a baby. Observation and records of the time spent in the homes of the students by the homemaker or by paid workers on each of these types of work will illustrate many interesting points in regard to the effective or ineffective use of time. A small amount of time spent on training children to put away and care for their belongings may greatly reduce time spent in personal service or in straightening a room. Time spent in looking up and buying self-service equipment for a dining room will reduce the necessity for table service. Illustrations of similar methods in reducing service in each form of household work may easily be found.

The study of the cost and value of employing different

commercial agencies is a most suggestive method of showing the contribution which the homemaker makes to the income by different types of work and the necessity for intelligent use of these time and labor-saving agencies. The accumulation of data in regard to the agencies that are available in the community, the cost of their service, and the extent of the use of these agencies in the homes of the class may be secured by group assignments. In some schools, the relative cost of home prepared and commercially prepared foods of the same grade, of home-made and ready-made clothing, and of different laundry agencies, are studied in the food, clothing, and housewifery courses. If the value of the time spent in the home preparation has been included in the cost of home-made articles, such studies give the basis for an intelligent discussion of the best use of commercial agencies under different household conditions and of the forms of household work which, if done by the homemaker, will represent the greatest addition to the income.

The use of the paid worker in the home. As an employer, the homemaker should be intelligent about labor problems and understand the most effective way of using paid labor in her own home. This topic should be introduced by a general survey of labor problems—hours of labor, wages and forms of payment, conditions under which labor is performed, etc. Material on these topics can be found in several of the social economic text-books that are planned for secondary school students. The comparison of the economic and social conditions of two girls, one of whom works in an industrial activity and the other in domestic service, offers a concrete problem for the study of the problems of domestic service. There is so much prejudice, misinformation, and misunderstanding in regard to the needs and demands of household workers and of the causes that are creating a scarcity in the supply of such

workers, that one of the most important contributions of the home economics teacher is to help her classes to acquire a social point of view in regard to household labor.

The use of part-time workers or of specialized workers doing job rather than hour work is the solution of the labor problems of individual housekeepers in many localities. The accumulation of information as to the existing or desirable agencies for securing specialized or part-time workers, as to the type of part-time workers most needed by the community, and as to the best methods of stimulating a demand for such workers among the housekeepers, can be most profitably made a joint project of a senior high school class and of some local women's organization that is interested in furthering the efficiency of the home.

The Income and the Budget. The management of the family income and its division among the various items of expenditure constitutes one of the most important topics in all household management courses. Unfortunately, many teachers present this material in so theoretical a way that their classes are left with a little general information and rather vague ideas how to make this information of practical use. The purpose of a study of the income and the family budget in the secondary school is to help students to appreciate the meaning of an efficient standard of living and the need for conscious control of their own standards through intelligent apportionment of their own allowances or possible wages, or of the family income. A budget is a general financial plan, the efficiency of which can be judged only through the actual return to the family or the individual in terms of physical efficiency, of satisfaction, and of social usefulness. The study of budget making should include not only a study of the standard divisions of the income and of the technic of planning and recording expenditures, but, if it is to be of practical value, it must

require also the making of a budget that will actually be used in order to give the students an opportunity to test the adequacy of their plans.

There are two difficulties associated with a practical budget problem: first, that such plans must be based on knowledge of the actual cost of necessities; and second, that of finding projects that are within the power of the students to carry out and that will help them to see the distinction between wants and needs. The following class, group, or individual projects illustrate problems of varying degrees of complexity:

1. Make a monthly or yearly plan for the expenditure of a personal allowance.
2. Make out a budget for an acquaintance or friend who is earning her living and compare it with her actual expenditure.
3. Make a monthly plan of expenditures for a practice house and after one or two months' experience revise into the form of a yearly budget.
4. In coöperation with a visiting housekeeper, plan the budget of a dependent family. This will require investigation of costs in the locality in which the family lives and study of the minimum essentials of an adequate standard of living.
5. Home projects—making a food budget, clothing budget, or income budget for the family.

When a study of costs has not been included in the food, clothing, and housing courses, it must be included in the study of the income and its expenditure, since knowledge of the value and the cost of maintaining different standards of food, clothing, housing, and furnishings must be the basis of intelligent planning of the expenditures of a family. A budget is an expression in monetary terms of the standard of living of a family; the decision as to whether \$500 or \$1,000 must be allowed for the food of the family can only be reached if the person who is planning the budget realizes

the kind of table that can be provided for the different amounts.

The income. In most of the secondary school text-books dealing with this topic there is little discussion of the meaning of income, yet intelligent apportionment must be based on an understanding of the factors that this term represents. An income of \$1,800 earned outside of the home by work of both husband and wife represents quite a difference in real income from \$1,800 earned by the husband alone. In the first case, the activities that are normally carried out in the home by the wife must be paid for out of the earnings. Real income consists of all money or its equivalent received by the family, and of the time or labor spent on household activities by its members. Before attempting to work out a budget for a particular family, some study of the general problems of income should be undertaken, such as: the minimum cost of living and its influence on wages; the management of the irregular or seasonal income; the analysis of real income in some of the different occupations that are found in the community (the farm home, the apartment janitor, the shopkeeper, etc.).

Personal and family budgets. The apportionment of the family income will vary with the size of the income, the cost of commodities at a given time, the locality as it influences social standards and costs, the size of the family, the age, physical condition and activities of the members of the family and their social standards and ideals. The study and making of a family budget is so complex a problem that it should be approached through the study of the simpler budget problems—personal budgets and food and clothing budgets. The following sequence of problems illustrates a method which will introduce a class gradually to the principles of budget making:

1. Study of the use of a personal allowance (not including necessities, food, clothing, etc.).
Points to be developed.
 - a. Standards of using resources.
 - (1) Present desires versus future needs.
 - (2) Advantages of planning ahead.
 - b. Types of expenditures that represent needs or desires of girls: personal adornment, sociability, amusements, recreation, gifts, charities, etc.
 - c. Meaning of efficient standards in expenditure.
2. Study of clothing budget.
Points to be developed.
 - a. Cost of different standards of dressing.
 - b. Conditions which will influence the standards of dressing of a family.
 - c. Necessity for considering time spent by members of the family in making clothing when deciding on clothing allowance.
3. Study of food budget of the family.
Points to be developed.
 - a. Cost of different standards in the food used by a family—minimum, comfortable, extravagant.
 - b. Estimating the efficiency of expenditures by comparison with standard percentage divisions of the food budget.
 - c. Variability of standard percentages with the size of the budget.
4. Study of budget of wage-earning girl.
Points to be developed.
 - a. Influence of the cost of necessities on the division of an income.
 - b. Influence of increase in income on apportionment for different items.
5. Study of the family budget.

Suggestions as to the methods of teaching food and clothing budgets have been given in the chapters on food and clothing. The most satisfactory organization of subject matter would include these topics as part of the food

and clothing courses, since the study of costs on which budget making is based can be more effectively carried out when the class is actually working with the concrete materials. If the study of the food and clothing budget is too separated in point of time from the consideration of the family budget, such an organization may be wasteful. If, however, the study of these topics has included well-organized home problems or projects, the recall of the information gained during such a study should not be difficult.

The following outline illustrates the type of topics and problems that should be included in the study of personal and family budgets, and shows the two methods of studying the family budget most often used in secondary school courses.

A. Family Budgets.

1. Direct method.

- a.* Estimation of the cost of necessities from data obtained during the study of food, clothing, and housing costs.
- b.* Study of the proportion of incomes of different sizes that must be used for necessities.
- c.* Estimation of the probable increase in expenditures for necessities as income increases and of the social gain or loss in such increases.
- d.* Study of the influence of the size of the family and the age of its members on the division of income.
- e.* Estimation of the influence on the apportionment for necessities of the time and labor contributed by the members of the family.
- f.* Selection of headings in a budget under which expenditures other than necessities should be placed.
- g.* Decision as to fair allowance for these other items of the budget, based on data secured from references or from the homes of the students.
- h.* Comparison of the budget planned by the class and recently published budgets of different groups.
- i.* The study of wages in different occupations and the meaning of a minimum wage.

2. Percentage method.

- a. Study of the meaning of percentage division of the budget: Engel's laws, the general factors which cause the variation in the allowance for different items in different localities, etc.
- b. From a standard division of the income adapted to the locality, estimate the allowance for each item of the budget with incomes of different sizes, using incomes that are representative of the family incomes of the class.
- c. Compare the adequacy of the apportionment for each item by investigation of actual costs.
- d. Have each member of the class estimate the probable deviation from the standard division of the income that would be shown in her own family due to such causes as the size of the family and the activities and interests of the different members of the family.

Followed by same topics as 1 (*f, g, h, i*).

B. Study of Personal Budget of a Wage-Earning Girl.

1. Study based on probable wage to be earned on leaving school.
2. Have class plan individually how they would spend a specified weekly wage.
3. Analyze and discuss variations in apportionment.
4. Estimate the cost of the girl's living and discuss extent to which allowance was made to cover it.
5. Advantages and abuses of "living at home."
6. Study of the probable use of a raise in wages.
7. Study of the budgets of wage-earning women such as can be found in recent publications.

Household accounts. Accounting, or the recording and analysis of expenditures, is an essential element in the study of the budget, and some experience in the technic of account keeping must be included in every practical budget problem. The kind of account form to be used for recording expenditures will depend upon the methods of payment—cash or check, daily, weekly, or monthly payments—and the facts in regard to the family expenditure that the account record should show. If food expenditures are being studied to ascertain the efficiency of the expenditure from

a nutritive standpoint, a different food record form will be used than when only information in regard to the amount of the total food expenditure is desired. If it seems valuable to secure information about the individual clothing expenditure of the members of the family, it will be necessary to use a different form from that which merely gives a record of all clothing expenditures. As each practical budget problem is studied, a class should discuss and decide which particular type of account form is best adapted for recording the expenditure facts that they wish to demonstrate or study. The use of a daily expense account book or journal can be most easily shown in the study of a girl's personal allowance. The use of classified accounts or ledger forms and of the combination journal and ledger will be demonstrated in the study of food and clothing budgets. The planning of a practical set of account books or cards to be used in each girl's home is a problem in which the study of the value of the different household account forms on the market can be included most profitably.

The recording and analysis of expenditures is one of the most important activities of the homemaker, yet it is often neglected because its value is not clearly seen or because accounting methods are needlessly complicated or time-consuming. The time required for account keeping problems should be carefully noted by classes in order to demonstrate the value of simplified forms. The necessity of making a detailed study of expenditures every month is questionable. An intensive study of family expenditures carried through one or two months each year will ordinarily give all the detailed information that the homemaker needs for modifying the character of her purchases. Detailed records of expenditures kept from year to year are a most valuable and interesting means of studying the gradual change in standard of living of a family with increasing responsibilities or increasing income.

Banking, credit, spending, and saving. The study of banking and credit in household management courses should be comprehensive enough to give the class some idea of the purposes of these institutions in economic life as well as their use and value to the individual in simplifying business relations. The business transactions of many households are carried out in a way that is wasteful of energy. The use of credit and of installment payments are legitimate methods of transacting household business if the purchasing plan of a family is based on a budget system and ability to discriminate between wants and needs.

The effective use of savings or of the surplus that should result from an intelligent planning of income and expenditures is a topic that is not often emphasized in home economics classes. Some discussion of the economic value of savings and of property is usually included in the social economics courses offered in the twelfth grade. Where such a course is not required for all the students taking the household management course, it would seem most advisable to include these topics in the latter course, with some study of the social value, safety, and advisability of using the different forms of investment, such as insurance, purchasing and equipping a home, investment in business managed by one of the family (store, farm), use of savings banks, etc. The educational work connected with the campaigns for Liberty Bonds and War Savings Stamps has made the necessity and value of savings more generally understood by every one.

Purchasing. Purchasing is one of the most important activities of the homemaker. Intelligent purchasing will materially increase the purchasing power of an income; and it will do much towards eliminating uneconomic methods in the manufacture and marketing of household commodities. In most home economics classes the study of purchas-

ing problems is distributed through the food, clothing, and housing courses, and no attempt is made to study these problems in connection with a household management course. It is obvious that a study of the qualities, grades, and quantities of food, clothing, and other household commodities that should be bought by the home purchaser can be most easily made while a class is actually serving meals, making clothes, or furnishing a home. This constitutes, however, but a part of the subject matter included under the term purchasing. While it is quite possible to include a more extensive study of purchasing problems in food, clothing, and housing courses, such problems as market facilities, market price, manufacturing and distributing costs, and family purchasing plans are more closely related to the economic and managerial problems of other household management topics.

Although a comprehensive study of purchasing is an advanced problem, there is great need of including some purchasing topics in elementary classes in some communities. In the poorer and in the foreign sections of many cities, especially where the mothers of the families are employed during the day, a large percentage of the food purchases of the family are made by the children of school age. This results not only in poor choice in regard to the quality and quantity bought, but also in failure to use the best marketing facilities of the community. In the investigation of marketing conditions during the shortage of food materials incident to the war, it was clearly shown that many families were suffering severe hardships through poor marketing facilities in their immediate neighborhood, while a few blocks away they would have found what they needed. The home economics teacher in such a locality should make the study of purchasing an important part of her course. This material can be organized around such practical problems as the following: investigation of the type of shops to be

found in the neighborhood and of the sanitary standards that must be maintained for different types of food materials; analysis of the difference in the prices of foods in different shops, and its probable cause; study of the value or loss in bargains and of the amounts of different foods that should be bought at one time.

When purchasing is made a senior high school topic, the investigation by the class of market facilities should cover all the agencies that are to be found in the community for the distribution of food, clothing, and household materials. The function and activities of wholesale and retail agencies, and the methods by which the home purchaser can reduce costs by the use of more direct agents than the retail store (mail order, wholesale, buying direct from the producer, coöperative buying, etc.), are topics which can be made interesting through discussions based on assigned readings in books on market distribution, popular articles in current magazines, the Weekly News Letters of the Department of Agriculture, etc. In many communities, various women's organizations have made a study of local marketing conditions, and a talk by some woman interested in this project will be of great assistance in stimulating interest or in suggesting lines of investigation that would be profitable for a class to undertake. The study of manufacturing and marketing costs and of the influences on retail costs of self-service, free or charged delivery, return goods privilege, quick turnover of stock, advertising, etc., are topics in which the investigation of prices in different types of stores, the accumulation of data from the experience of the homes of the students, the study of advertising methods, and experience in making purchases from different agencies should all be used.

The making of a purchasing plan based on the need of the individual family is a home project around which may

be centered the study of the quantities of the standard food, clothing, fuel, and cleaning supplies needed by the family, the quantities in which different articles should be bought to secure the best price and in relation to the storage facilities of the home, and the time of year in which purchases can be made at the best rate and with the greatest choice in selection.

The direct financial gain to the family which comes from the use of marketing agencies that reduce marketing costs and from intelligent planning of purchases has made the study of these practical problems seem more important to most home economics teachers than a study of the economic principles underlying market price and of the meaning of social demand. While the demand of an individual purchaser will not materially correct abuses in the conditions of producing goods or in the market price of a commodity, if more general knowledge of the force of intelligent demand can be given to the country's main purchasers—the women—it should lead to clearer thinking in regard to the responsibilities of the purchaser and in regard to the social and economic problems of industry. As in the teaching of all social economic problems, these topics can be made more vital by the use of newspaper and popular magazine articles as well as standard text-book material. Detailed outlines of the economic problems which should be considered in this topic will be found on page 275 and in the general home economics course outlined in the appendix.

FAMILY HEALTH AND CHILD CARE

Health instruction is assuming greater importance in all school grades. The schools are not only teaching the scientific principles on which healthful living is based, but they are also attempting to initiate the use of hygienic habits by

providing facilities for bathing, adequate and decently served school lunches, medical inspection and school nurses, open-air schools, and well-planned recreation on the school grounds. In addition, many schools give school credit¹ for faithful maintenance of hygienic habits in the home—sleeping nine hours each night, sleeping with open windows, etc. The general health program of a school is usually carried out through several different departments, the science, home economics, and physical education departments being the most active in such teaching. The type of health work undertaken by any one department should be largely influenced, therefore, by the type of work given in other departments. For example, the study of community hygiene or community control of healthful living may be given in both biology or general science and civics courses; in one, the emphasis would be upon the scientific principles involved in the methods used for maintaining healthful conditions in the community; while in the other course the social value of such control would be emphasized.

Though the division of health instruction between departments will vary in different school systems, the following lines of division are usually found in schools that have science, home economics, and physical education departments adequately represented in the curriculum:

- A. General study of the principles of health.
 - 1. Science department.
 - a. Physiology: general and nutritional.
 - b. Bacterial life and its application in sanitary science.
 - c. General personal hygiene.
 - d. Community hygiene.
- B. Study of the practical applications and the initiation of healthful habits.

¹L. R. Alderman. School Credit for Home Work. Houghton Mifflin Co.

1. Home Economics department.
 - a. Nutritional physiology: dietaries and dietetics.
 - b. Personal hygiene.
 - (1) Hygiene of food and clothing.
 - (2) Infant and child hygiene.
 - (3) House sanitation.
 - (4) Home nursing.
2. Physical Education department.

Recreation and training in healthful activities.

In many schools the students do not bring to home economics courses the background of science work on which to base the study of concrete situations. This has resulted in the inclusion of general science topics in home economics, with the consequent increase of the responsibility of the home economics department in the health teaching of the school. In those schools where the main study of the problems of the family and community health is undertaken by the home economics department, it is most important that courses which include such topics should be organized for both boys and girls.

Health topics in home economics courses are usually distributed through the food, clothing, and house courses rather than grouped into a special course in family health. The acquisition of hygienic habits in the care and handling of food and in the care of the house is obviously one of the aims of laboratory courses on these subjects. The study of the hygiene of clothing is usually associated with textile or clothing selection courses. Such problems as the feeding of children and invalid diet may be incorporated in food courses or else in courses in home nursing or child care. Home nursing or child care are either included in the "left over" type of household management course or they are offered as short-unit courses by themselves or in combination with physiology or general hygiene.

Home Nursing. Home nursing as interpreted by home

economics teachers is the care of the family in sickness. The study of the technic of caring for a patient and the sickroom, first aid, cooking and diets for the sick, and the characteristics and general treatment of common diseases, are the topics most often included in these courses. In order to give classes an opportunity to observe skillful technic in sickroom care and first aid treatment, many home economics teachers arrange to have demonstrations given by a trained nurse. If these demonstrations are followed by classroom exercises in which the students carry out the processes that they have observed, such teaching may be helpful and suggestive. A large part of the laboratory work in home nursing courses is usually devoted to cooking. This is a logical outgrowth of the emphasis on food preparation seen in most schools, and in addition, cooking for the sick is the one aspect of home nursing which does not require sickroom conditions to make the teaching real.

The value of home projects in the acquisition of skill and in the creation of a motive for studying problems has been emphasized in all of the preceding chapters. Home nursing is a problem which offers a peculiar and difficult situation in the planning of projects. The kind and amount of nursing needed in the homes of the class will vary so greatly that home nursing projects must be made individual rather than class assignments. The increasing interest in public health is resulting in a gradual increase in the agencies that are giving service or instruction in the maintenance of health or the care of illness. Such agencies are not only increasing in the large cities, but their rapid growth in small towns and rural communities is most marked. The public health nurse, visiting nurse, district nurse, or instructive nurse, as she is called in some localities, is becoming one of the most important agents for teaching home nursing. Her instruction is given in the homes of the

patients at the time when the need for such instruction is present, and the type of instruction is adapted to the needs of the case and the family. Such conditions for a home project in nursing are far more valuable than the theoretical treatment of home nursing that is an almost essential condition of school teaching.

One of the most important functions of the home economics teacher is to teach students to use intelligently the various health agencies in her community. That such agencies are developing in spite of ignorance or indifference to their existence or prejudice against their use is evident. An intelligent demand would not only increase the usefulness of existing agencies, but it should also stimulate the creation of such agencies for all economic groups. While only a limited number of people can employ a trained nurse for full-time care of all sickness in the family, most families can afford to employ equally expert nursing and instruction for a daily visit. The study of the health agencies of the community and how to use them properly is a topic which should be added to all home nursing courses.

The establishment of courses in home nursing in extension homemaking classes offered for women who have families or who are expecting to undertake the responsibility of a family is one of the important contributions of vocational home economics. Such classes should fulfill a real need, for it is the mother of a family who takes the responsibility of the care of the sick, and instruction is much more vital when it is given in response to a consciousness of need.

Child Care. The teaching of infant hygiene and child care in the schools offers many parallel situations to the teaching of home nursing. The most effective instruction can be given when the student has the actual responsibility of caring for an infant or a child. The fact that in many

homes the girls of school age share the responsibility of caring for the younger members of the family has emphasized to many teachers the importance of giving some training in child care in both the elementary and secondary schools. The plea that the value of teaching child care in the schools is that in this way all homes would be reached by this instruction is putting the responsibility of home instruction upon a seventh or eighth grade child rather than upon more skilled agencies. It is a difficult educational problem to change the standards of a family, and no amount of instruction given to a child as to the daily bathing of an infant will establish such a habit in a home when the mother does not realize its value. Child care teaching which will really function must be given to the mother herself by such agencies as the visiting nurse, children's clinics, school classes for mothers, etc.

The question whether child care should be made a subject of instruction in home economics courses may be considered from another standpoint than the immediate practical value of such teaching. Child care furnishes another approach to personal hygiene than that given by the science department, and the value of rest, exercise, regular habits, cleanliness, etc., can be emphasized anew. Most girls are interested in babies and small children, and observation and discussion of their feeding and hygienic care is an interesting and suggestive problem in healthful living. This interest in and study of a practical application of personal hygiene is the real purpose of giving instruction in child care in elementary classes rather than the giving of specific information as to bathing or feeding a baby.

The topics that are included under child care vary somewhat in different schools and in different grades. Those most commonly used are: the general care, exercise, bathing, food, and clothing of infants and young children;

infant mortality and the common diseases of childhood and their control and prevention; and the study of the child welfare agencies of the community. The selection of topics for a particular school will be influenced largely by the time allowed for such instruction. In some schools, three to six class periods and no outside preparation is the total allowance in the elementary school, with no definite requirement in the secondary school. The course of study in household arts advised by the Board of Education of Massachusetts suggests a much more liberal time allowance. A total of fifty-one hours of class time and twenty-two hours of outside preparation is allowed for child care in the eighth, ninth, and tenth grades.¹ These represent the extremes, while the usual allowance lies somewhere between them.

Some understanding of child psychology and the training of children is as important an aspect of child care as their physical care. It is an aspect, however, that is seldom included in home economics courses in the secondary school. This is probably due to the immaturity of the students, to the impossibility of making these topics significant unless actual observations can be made of children's reactions, and to the fact that such training is of no immediate use to most of the students. When, however, an opportunity for observation and actual care of children can be provided for in a day nursery, child clinic, children's hospital or similar agencies, it is possible to make these problems more interesting and valuable to secondary school students. It is obvious that such a study should not be undertaken before the last years of the senior high school. The suggested use of a study of child literature in the four-year homemaking course recommended by the Illinois State Board for Vocational

¹ Household Arts. Board of Education, Commonwealth of Massachusetts, Bulletin 29, 1916.

Education illustrates the attention being given to child training in vocational home economics courses. While the study of child care and child training in secondary schools should create more general knowledge of the needs of children, the development of extension courses in child care and training for groups of older girls and women who are out of school is probably the most valuable means of raising the level of child care in the community that the schools can offer.

The maintenance of a normal family life is so dependent upon a healthful heredity that any discussion of the teaching of family health must take into consideration the teaching of social hygiene. Whether this topic should come within the formal teaching of the schools, the groups to which such teaching should be given, the aspects of this topic that can be taught properly and successfully to groups of secondary school girls or boys, and the departments that should be concerned with such teaching, are problems on which there is much difference of opinion. In the general discussion of reproduction and heredity given in general science or biology courses,¹ the importance of selection based on physical and mental vigor is usually emphasized. In many schools this constitutes the only formal instruction in sex hygiene. The teaching of social hygiene is the joint responsibility of the home, the church, and the school, and the home economics teacher interested in the maintenance of high standards in family life and in the working out of family problems through home projects stands in a peculiarly intimate relation to such teaching. Her function in such teaching may be mainly an advisory one, but she should be prepared to give intelligent and helpful suggestions to the individual girl or woman or to the group for whom more specific instruction seems desirable.

¹G. W. Hunter. A Civic Biology, Chapter XVII. American Book Co. O. W. Caldwell and W. L. Eikenberry. General Science, Chapters XXIV, XXXI. Ginn & Co.

THE FAMILY

The study of family life and family relationships is so apt to be colored by personal relations that it is extremely difficult to organize such topics into subject matter adapted to secondary school students. In most of the general discussions as to the value of home economics studies, great emphasis is placed on the need of studying the family and its problems and on the necessity for establishing ideals and standards of family life. In spite of this attitude, the lack of material on the family in secondary school home economics text-books and the inadequacy of the treatment of this topic in course outlines demonstrate that in the main the general sentiment in favor of including this topic has never been crystallized into a definite and workable plan for its teaching. That this is due largely to the difficulty of teaching social problems to the immature student is undoubtedly true, yet some study of the family and its problems is included in some of the newer courses in community civics.¹

The inclusion of a study of the family in civics or other social economic courses has many points in its favor. The problems of family life must be shared equally by both the young men and young women of the country; and if the only study of these problems is given in the home economics course, the full value of such teaching is not secured. Furthermore, in the study of society and social organization and of the social forces and forms of social control, the study of the family as a social unit holds a logical place. While the family is a topic which can be most profitably included in a general course on social problems, this does not preclude a study of family problems in the home economics

¹R. T. Ashley. "The New Civics," Chapter V. Macmillan Co. H. R. Burch and S. H. Patterson. "American Social Problems," Chapters VI and XXII. Macmillan Co.

courses. The richer background of information in regard to the economic relations of the family which comes from a study of family budgets, and of family needs which comes from a study of home activities, makes it possible to develop a more intensive study of family problems in the home economics course than is possible in a general social course.

Home economics teachers use two different methods in the study of family problems: the incidental method and the formal method. The incidental method consists of centering the attention of the class on some of the ideal motives or sentiments that lie back of normal and desirable family life. If the incidental discussion or occasional lesson given to the study of the ethical relations of the family, such as its responsibilities, discipline, and standards, or to such social activities of the family as hospitality and family celebrations, is made vivid and vital, it serves a valuable function as one of the forms of ethical training that the schools can give. If the sentiment in regard to family life that is fostered by such teaching can be translated into concrete activities, such as being the hostess in a school function, planning a celebration for some real family occasion, taking over a definite piece of work in the home as a rightful sharing of family responsibility and service, or similar activities, the value of such teaching will be greatly enhanced.

A more formal and comprehensive study of the family, consisting of class discussions based on assigned readings, may be organized in advanced courses. The following outline shows the topics that may be included in such a study. From the nature of the topics it is evident that an intensive study of the family should probably not be undertaken until the last year of the senior high school. Some discussion of the more elementary problems, however, can be included with much profit in courses planned for the ninth or tenth grades.

STUDY OF THE FAMILY

A. The Family as a Social Unit.

1. Purpose of the family.
 - a. Care and training of young.
 - b. Its value as a motive for individual effort and the acquisition of property.
 - c. Its value as a conservator of social standards.
 - d. Its value in the development of social habits—coöperation, care of the weak, etc.
2. Forms of family organization with different groups and family control.
 - a. The patriarchal family.
 - b. The individual family and the gradual change in the position of women and children in family life.
 - c. The 20th Century American family—family control and the rights and needs of the individual.

B. Economic Problems of the Family.

1. Economic relationships of the members of the family.
 - a. Contribution to the income by mother and father.
 - b. Economic dependence of children and contribution of children of wage-earning age.
 - c. Property, provision for old age, and inheritance.
2. Family problems due to economic conditions.
 - a. Low marriage rate and deferred marriage due to economic causes.
 - b. Birth rate as influenced by cost and standard of living.

C. Stability of the Family.

1. Marriage.
 - a. Economic and social responsibility assumed by persons entering into contract to establish a family.
 - b. Value of a sound heredity.
 - c. Divorce: its causes, dangers, and values.
2. The family and the community.
 - a. Increasing appreciation of the social value of family life: courts of domestic relations, laws in regard to family desertion, widows' pensions, etc.
 - b. Community control supplementing inadequate family control.
 - (1) Health regulations and vital statistics.
 - (2) Compulsory education.
 - (3) Laws safeguarding women and minors.
 - (4) Organized recreation.
 - (5) Marriage regulation.

PROBLEMS

1. Outline a home or school project which will necessitate the planning and supervising of the work of an assistant or assistants.
2. Select a secondary school text-book on social economic material which you would advise for required reading on labor problems.
3. Outline the management problems that can be used profitably in an eighth grade course.
4. Make a detailed outline of the lessons that should be given to budget making after a class has studied food and clothing budgets in previous courses.
5. Make an analysis of the health teaching in your own school system, and outline the type of health topics to be given by the home economics department and their position in an elementary course offered in grades six, seven, eight, and in a four-unit course offered in the secondary school.
6. Discuss "adequate and reasonable" time allowances for child care topics in the different grades.
7. Outline a series of lessons on the family to supplement a general discussion of the family given in an eleventh or twelfth grade civics course.
8. Which departments of instruction in your school system could assist you in working out a series of short unit courses on the care and training of children?
9. Outline in detail the lessons on family life that you would give in home economics courses planned for a junior high school.

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PART II

PRINCIPLES OF HOME
ECONOMICS TEACHING

CHAPTER IX

THE STATUS OF HOME ECONOMICS IN THE SCHOOLS

OUTLINE OF THE CHAPTER

TERMS USED IN HOME ECONOMICS EDUCATION.

Terms applied to subject matter.

Terms emphasizing relationship to the practical arts.

Terms having vocational significance.

DEFINITIONS OF HOMEMAKING AND HOME ECONOMICS.

RELATION OF HOME ECONOMICS TO OTHER SUBJECTS.

BASIS OF HOME ECONOMICS INSTRUCTION IN THE SCHOOLS.

A form of manual training.

One of the vocational subjects.

One of the practical arts.

One of the subjects of general education.

POSITION OF HOME ECONOMICS IN THE SCHOOLS.

Terms Used in Home Economics Education. Any attempt to define the status of home economics in the elementary and secondary schools is met by the difficulty of reconciling the various terms by which such work is designated. In a general way these terms fall into three groups: (1) those terms that designate a definite field of instruction or a unit of *subject matter* within the general field, such as home economics, domestic science, household management, foods, clothing, etc.; (2) those that emphasize the *activities* of the subject and its relation to the practical arts—domestic arts, household arts; (3) those that specify a definite *vocational* field, as homemaking, housekeeping.

Terms applied to subject matter. Of the terms included in the first group, "home economics" has been

adopted as the most universally acceptable term to designate the entire subject. Domestic science or household science and domestic art are older terms which create an artificial division of the subject into two types of work—applied science and applied art—and designate a narrower field. While they are still in use in many school systems, they are almost never found in current writings or educational discussions. There has been some discussion of the inadequacy of the name home economics as failing to suggest production or a vocational use.¹ It is difficult to find a single word or combination of words that will in any way define a field of instruction as varied as that of home economics and at the same time define the purpose of the subject. The greatest need would seem to be to select a name and define it so clearly that it will have a definite and similar meaning for every one. The adoption of the name Home Economics by the Association charged with the development of this subject and its use in the Smith-Hughes Act, which has a nation-wide application, practically assures the general use of this term in the further expansion in the schools of work in this field.

The terms food, clothing, household management, are used to define subdivisions of the general subject home economics. The wider adoption of foods and clothing to displace the older terms cooking, cookery, and sewing has much to recommend it. It defines more clearly the type of work that is being offered in the schools, since cooking and sewing merely represent the activities of preparing foods and making garments, and are not inclusive enough to cover the problems of the selection of food and clothing.

Terms emphasizing relationship to the practical arts. The use of "household arts" as a basic term has been sup-

¹D. Snedden. "Problems of Secondary Education," page 294. Houghton Mifflin.

ported by a group of educators who think of home economics not in terms of subject matter but in terms of activities. This is a natural outgrowth of the manual training or manual arts movement with which the introduction of home economics into the schools was associated. Certain of the activities included in home economics may be clearly identified as belonging to the practical or manual arts. Do these activities, however, represent the entire field that we have defined by the more general term home economics? While the name "household arts" has been adopted by several public school systems and by a few of the large training schools and appears in a number of state laws dealing with industrial education, its use tends to maintain the position of home economics as an accessory or supplementary aspect of general education¹ rather than as a clearly defined branch of instruction with a definite contribution towards the interpretation of social and economic relationships.

As a more descriptive term than clothing and shelter, household art as distinct from household arts has been used to describe that part of the field of home economics that deals with the adaptation of the fine arts to the household: costume design and costume making, house decoration, application of design in needle-work, etc. Such special use of terms adds unnecessary confusion to terminology that needs to be simplified rather than expanded.

Terms having vocational significance. The terms homemaking and housekeeping are almost universally adopted when courses are frankly vocational in character. Homemaking is the broader term and is used to represent the entire activity of the homemaker, while housekeeping is generally used in a narrower sense. Whether housekeeping should be the vocational aim of secondary school

¹D. Snedden. "The Practical Arts in General Education." *Teachers College Record*, January, 1918.

courses, whether homemaking is a vocation that is attainable for girls of secondary school grade, depends largely upon our definition of these terms.

Two other terms have been used to designate vocational ends of teaching in the field of home economics, household management and household administration. Household administration has not been used very generally, and when used it has designated vocational work of professional grade rather than secondary grade. Household management has been used in two ways: (1) as a division of the subject matter of home economics; and (2) as suggested above—a term equivalent to homemaking. For the sake of clarity and simplicity it would be advisable to adopt the first of these two meanings.

Definitions of Homemaking and Home Economics.

Since they are gradually assuming the position of generic terms, an acceptable definition of each of the terms, home economics and homemaking, is essential to a clear understanding of the organization of this material in the schools. Unfortunately there are few authoritative statements and little in the way of published material that gives a discussion of the issues. Homemaking would seem to require no defining, as it obviously represents the training given to prepare a girl to make a home. Its meaning, however, depends so largely upon how we interpret home and homemaking activities that the following schematic definition is suggested as a basis for discussion and clearer definition. Homemaking consists of:

- i. Knowledge and control of the physical and financial aspects of the home.
 - a. Household activities

{	cooking
	sewing and mending
	housewifery
	laundry work, etc.
 - b. Family health: nutrition, hygiene, and care of members of the family.

- c. Purchasing: economic basis and selection of qualities and value.
 - d. Organization of income and accounting.
 - e. Organization of time and labor.
 - f. Maintenance of efficient standard of living.
2. Intelligent understanding and direction of the social relationships and the æsthetic and intellectual environment of the family.
 - a. Training of children.
 - b. Relationship within the family of the different members.
 - c. Relationship of the family to intimate social groups.
 - d. Relationship of the family to the community and to society.
 - e. Use of leisure: recreation and education.

When homemaking is used to mean the vocational aim of girls of fourteen to eighteen, is there a conscious limitation of the definition to the first aspect, or is even this too ambitious a plan for the maturity of these students? Can we give them control with all that this term implies of skill and judgment, or do we merely introduce them to the elements of many of the physical and financial problems and give them a modicum of skill in the performance of household activities? Again, it might be asked just where the division in content falls which separates homemaking from housekeeping. Housekeeping has been defined as: "Woman's economic contribution to the family income; and her business share in the process of running a household, just as wage-earning is man's. She should have a professional attitude toward her work, but she should not be allowed to confuse her achievements as a housekeeper with her obligations as a homemaker, which are much more subtle and difficult of accomplishment."¹ Is housekeeping a narrower field than is outlined above under 1., or is it synonymous? Homemaking or home administration is clearly the vocational aim of home economics teaching, whether train-

¹ A. C. Boughton. "Household Arts and School Lunches," page 42. Cleveland Survey Publications.

ing for this vocation should be of secondary or of college grade. The rather general use of homemaking as applied to work in secondary schools narrows the accepted meaning of this term.

In most subjects of instruction there is a relatively clearly defined field of related facts, principles, laws, and applications which are accepted as belonging in a coherent system. Chemistry, mathematics, and history mean practically the same thing to every one, with the differences and deeper interpretation which come with greater knowledge in any of these fields. There is no such definiteness to the definition of home economics. While in general terms the subject matter centers around the study of foods, clothing, and shelter, the different aspects under which these main topics may be considered are so varied that there are limitless possibilities of defining the content of courses.

The Home Economics Association, which was organized to unify the different groups who were working to solve some of the problems in this field, has attempted to outline and define the subject matter of home economics in a fairly exhaustive syllabus published by the Association.¹ The definition is as follows:

"Home Economics, as a distinctive subject of instruction, is the study of the economic, sanitary, and æsthetic aspects of food, clothing, and shelter as connected with their selection, preparation, and use by the family in the home or by other groups of people. . . . "Home economics, like many other subjects of instruction—for example, sociology, engineering, agriculture—is a complex. In it the contributing groups are art, history, anthropology, sociology, and æsthetics, economics, physiology, hygiene, mathematics, chemistry, physics, and biology."

This is the clearest and most definite statement that we have had as yet; even so, it is general enough to allow many individual interpretations as our knowledge of the different aspects of the subject has grown.

¹ "Syllabus of Home Economics," pages 4 and 7. American Home Economics Association, 1913.

The subject matter of home economics is outlined in this syllabus into the four divisions: (1) Food, (2) Clothing, (3) Shelter, (4) Household and Institution Management. For many people this division places too great emphasis on the activities and material equipment of the home and subordinates the equally important element of the economic and social relationships. This is due very largely to the inclusive meaning of the term household management. Might we not limit household¹ management to mean: *a study of the management of the material resources, the financial and service problems of the home, and the economic relations of the home and the community?* Such a definition would leave for another or even for two main divisions of the subject matter of home economics the whole problem of the social relationship of the family and the care and training of children. Such titles as the Family and Care of Children might be used for these two divisions of subject matter.

Relation of Home Economics to Other Subjects.

To what extent does the field of home economics overlap that of the subjects contributing to it? This is a very pertinent question when the overcrowded curriculum is considered. With the steady development toward socializing school subjects and toward emphasizing facts and principles in use rather than as things to be learned for future use, there is a marked tendency towards the incorporation in other subjects of material labeled home economics, just as we are calling certain aspects of economics, sociology, science and art, home economics. Thus we find dietaries and selection of food considered in general science courses

¹Note. Home and household are used interchangeably by most home economics teachers, but when a distinction is made between these terms, home is conceived as the broader term, since it has greater ethical and social significance. The use of household management rather than home management is advisable when a definite limitation is given to the meaning.

and a discussion of family expenditures in civics and economics courses. It is, in fact, impossible to draw a sharp line and isolate that one unit of activities and social relationships called the home from the rest of life. Though the function of home economics is to interpret home life, it must also show the relationship of the home to outside activities. A subject that embodies or applies facts and principles from other fields is especially liable to become merely a system of loosely organized facts whose underlying principles are subordinated to their applications. Many of the courses in home economics have warranted this criticism. There is slowly evolving, however, a body of principles in food selection, food preparation, household purchasing, family expenditures, etc., which are clearly enough defined to constitute a definite field of instruction not covered by other subjects.

Basis of Home Economics Instruction in the Schools. The beginning of home economics teaching in the public schools is seen in the introduction of sewing courses into the elementary schools following the authorization for the teaching of sewing by the Massachusetts Legislature in 1876. From this time there has been steady growth in the number of communities offering courses in the subject matter and activities of home economics. During its development, home economics instruction has been so largely influenced by the purposes and methods of manual training, general industrial training, and vocational education that any discussion of its place and purposes in the schools must be considered from the standpoint of each of these.

A form of manual training. The introduction of cooking and sewing into the schools was greatly accelerated by the development of the manual training movement, which became a significant factor in educational thought during

the last two decades of the 19th Century. Cooking and sewing were accepted as the type of manual training best adapted to the needs of girls. Manual training was put into the schools to serve two purposes: (1) to contribute to the fuller development of the child through "learning by doing," or "training both hand and head;" and (2) to give practical training that would help boys or girls in their future vocations.

There were some interesting differences between the aims and the methods of the courses for girls and of those given to boys. One of the fundamental reasons for this is the universally accepted difference between the vocational needs of boys and girls. The major vocation of the majority of women is homemaking. Cooking and sewing, therefore, served not only the educational ends or value of other manual arts, but also offered training in two aspects of the vocation that most girls would pursue. The type of work included in manual training for boys, on the contrary, offered experience in the materials of the vocational activities of so few boys that the aim of such training was soon frankly expressed as contributing to their general development. This double value assigned to the training given in household activities has done much towards confusing the real educational value of this subject.

The manual training movement received popular support, both from the layman, because he saw practical value in it, and from the educator, because he saw it as a method that was valuable in general education. In one sense the introduction of manual training into the schools marked the beginnings of more socialized education, but the subject matter, aims, and methods of the manual arts were interpreted so narrowly that the results of such training fell far short of the ideals of its advocates. Manual training courses in woodworking, cooking, sewing, etc., gave neither

vocational efficiency nor real understanding of industrial or household problems; their primary purpose was to give hand skill and knowledge of constructive processes.

One of the vocational subjects. The conventionalization of the manual arts to meet schoolroom conditions soon showed the inadequacy of such training for vocational purposes, and, with the increasing demands of economic life, the need for training in specific vocations became so evident that the organization of vocational training in agriculture, commercial, industrial, and household occupations has become an essential part of public education. Evidence of this is seen in the educational laws of most of the states, in the provision for the support or requirement of "industrial" or vocational work. The final impetus for the organization of such work was given through the passage of the Smith-Hughes Act for the Promotion of Vocational Education which provides Federal funds for the support of vocational training in agriculture, trade, home economics, and industrial subjects. The first legislative action for vocational education was taken by Massachusetts in 1906, and the Smith-Hughes Bill was passed in February, 1917.

The increase in home economics teaching during this period of rapid expansion in vocational work was very marked. This is illustrated by the dates of introduction of courses in 444 communities; 124 of these reported instruction in home economics previous to 1906, while 320 began instruction during the period 1906-1913.¹ As a result, home economics is universally identified as vocational without any regard to the character of the work that is offered. Yet in many cases these courses show little change in content and methods from those offered as a form of manual training. The characteristics and values of vocational home economics courses will be discussed in Chapter XI.

¹"Education for the Home." U. S. Bureau of Education, Bulletin No. 37, 1914, page 70.

One of the practical arts. To the more far-seeing educators the failure of "manual training" was due not to the inadequacy of occupational activities as educational material, but to the narrow and formal interpretation of these activities. The use of occupations to vitalize the work of the school and as a means of giving students an understanding of and interest in the occupations that are carried on around them, is steadily growing in the schools. This attitude towards the occupational or practical arts has been most clearly expressed by Dewey:¹

"Gardening, for example, need not be taught either for the sake of preparing future gardeners, or as an agreeable way of passing time. It affords an avenue of approach to knowledge of the place farming and horticulture have had in the history of the race and which they occupy in present social organization. Carried on in an environment educationally controlled, they are means for making a study of the facts of growth, the chemistry of soil, the rôle of light, air, and moisture, injurious and helpful animal life, etc. There is nothing in the elementary study of botany which cannot be introduced in a vital way in connection with caring for the growth of seeds. Instead of the subject matter belonging to a peculiar study called botany, it will then belong to life, and will find, moreover, its natural correlations with the facts of soil, animal life, and human relations. As students grow mature, they will perceive problems of interest which may be pursued for the sake of discovery, independent of the original direct interest in gardening—problems connected with the germination and nutrition of plants, the reproduction of fruits, etc., thus making a transition to deliberate intellectual investigations.

"The illustration is intended to apply, of course, to other school occupations—woodworking, cooking, and on through the list."

Interpreted in terms of household activities, this would mean that the household arts of sewing, cooking, cleaning, etc., should be used as a method of approach to the study of the practical, scientific, social, and art problems related to these activities. As was noted in Chapter I, this is the most satisfactory method of organizing subject matter for

¹ John Dewey. *Democracy and Education*, page 235. Macmillan Co.

elementary classes. The use of the term household arts to designate the work in home economics in the lower grades would seem to be justified if such work is of the character outlined above.

In most school systems the study of household activities has been carried beyond the elementary school into the secondary school. Such work is justified in terms of its social value, and because of its rather vaguely defined contribution to the general development of the students. As giving experience in and fuller understanding of the activities that the girls are carrying out in their homes or that they may use in the future, the practical and social values of cooking, sewing, and housewifery courses are quite evident. There is need of clearer demonstration of their contribution to the educational development of students. The effective courses in the general high school are those in foods and clothing, not those in cooking and sewing.

One of the subjects of general education. As the problems of community life are organized into a definite subject of instruction in community civics and social problems courses, so may the problems of home life (the selection and purchasing of food and clothing, house sanitation, financial and labor problems, family relationships, training of children, etc.) be considered as a subject of instruction contributing in the same way to a complete and richer understanding of life. It is the study of such problems that constitutes the subject matter of home economics. Some experience in the household arts of cooking, sewing, and cleaning may accompany a study of home problems, but they are to be considered as a means, not as ends of instruction. Conceived of in this way, home economics is not a group of household activities contributing vaguely to general education; it is a subject with a definite contribution of facts and principles, in the study of which students may develop

the same powers and appreciations that are developed by the study of other general subjects.

The gradual evolution of subject matter courses from manual training courses is illustrated most clearly by the teaching of food courses. Because of the need for explaining why things were done in a certain way, and because of the number of facts about foods that could be taught, cooking courses became very early more and more a study of foods in which the manual activity was subordinated to the position of a laboratory demonstration or application of principles. The need for explaining the characteristics of food materials and cooking processes in terms of the sciences brought an increasing emphasis on the scientific basis of food work in the training of home economics teachers, which was very generally reflected in the work given in the elementary and secondary schools. Food courses in many communities became practically applied science courses, with emphasis on subject matter. Such courses were based on a principle far removed from the vocational idea of teaching a girl to cook, and equally far removed from the theories of manual training which emphasized hand training rather than subject matter.

Position of Home Economics in the Schools. The present position of home economics in the schools is influenced both by its identification with the manual training, industrial arts, and vocational education movements and by the gradually growing realization that understanding of the problems and materials of the home is so vital to social welfare that they should be studied as a definite subject of instruction—home economics.

The development of home economics instruction has been coincident with the rise of vocational education. How far the vocational needs of the homemaker will dominate the teaching of the future is one of the problems of home

economics teachers. The demand for training in specific vocations is only one manifestation of the more comprehensive demand for a socialized education which will fit every child for life. Is there not a place in this broader educational movement for a study of household activities in the lower grades and for a study of home problems in the later grades? Have not the household arts and home economics a place in general education as homemaking has in vocational education?

PROBLEMS

1. What is the objection to using housekeeping as the objective of vocational work in the secondary school? When would you advise giving formal training in each aspect of homemaking?
2. Under what circumstances would you include dress-making and cooking courses in the secondary school?
3. Discuss home economics at a play-level and at a work-level as outlined by Bobbitt in "The Curriculum."
4. For a school system that includes an elementary school of grades one to six, a junior high school and a general high school, outline the type of home economics instruction that you would offer in each school.
5. Explain the rather general use among educators of the term Household Arts for all of the work in home economics offered in the elementary and secondary schools.
6. Make a study of several secondary school courses. Are they properly called home economics courses? Is equal emphasis placed on all the aspects of home economics? How much of the subject matter of these courses might be taught in the natural and the social science, and art courses?

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CHAPTER X

AIMS OF HOME ECONOMICS TEACHING

OUTLINE OF THE CHAPTER

THE ESSENTIAL CHARACTER OF AIMS.

STATEMENTS OF AIMS FOR HOME ECONOMICS COURSES.

AIMS IN SOCIAL TERMS.

Vocational objectives.

General social objectives.

AIMS IN EDUCATIONAL TERMS.

STANDARDIZING HOME ECONOMICS TEACHING.

The Essential Character of Aims. The purposes or aims of a course are the foundation on which it must be built. The teacher who has definite objectives before her will select the subject matter and the methods of teaching that will accomplish her purposes. If she believes that ability to solve problems is a desirable objective of her teaching, she will see that situations are provided that call for this type of thinking. If she believes that her course should help the students to understand the community in which they live and to prepare themselves to take places in it, she will see that the problems of the homes and of the neighborhood are brought into the classroom.

Aims should be expressed in terms of possible achievement. In looking over courses of study or outlines of courses, a marked disparity is often to be seen between the stated aims of the courses and what the pupils really accomplish in their work. One of the fundamental reasons for this is that the aims are not demonstrable aims. They

are inexact, extravagant statements due to failure of realization that aims must be based on the needs and abilities of students and that they should define the attainable objectives of class experience. Can we give a twelve-year-old child "a true realization of the home" by giving her a series of lessons in food preparation and garment making, the class meeting one and a half hours a week for two years, or seventy-two lessons? Will not the necessity of spending time on learning laboratory routine, the control of equipment, and the actual carrying out of the practical problems in cooking and sewing limit the achievements in such a course? The acquisition of a few useful habits, the acquisition of some information in regard to food and clothing materials and their uses, and, if the course has been well planned, some experience in solving the problems encountered, and greater interest in intelligent use of food and clothing is what is really accomplished by the class.

While the statements of the aims of a course should be explicit enough to help in defining the character of the class work, they should not limit achievement by too narrow an interpretation of the purposes of such work. The acquisition of skill and of information are valuable objectives, but they are not broad enough to serve as the dominating aims of a course. If the teacher who planned the course outlined in the last paragraph had had as one of her objectives "to give the type of work in food and clothing that would be of the greatest social value to the class," the entire character of the subject matter of the course would probably have been changed. Aims should be expressed in terms of social usefulness as well as in terms of enlarged powers and abilities.

As the object of outlining the aims of a course is to bring to the teacher's consciousness the possible ends of her teaching in order to lead to discrimination in the choice of topics

or methods of teaching, it is evident that such statements must consist not of a single objective, but of several social and educational objectives that are based on the needs, interests, capacities, and learning activities of the students.

Statements of Aims for Home Economics Courses.

The association of home economics with general education as one of the manual arts and with vocational education has added greatly to the confusion shown by home economics teachers as to the real objectives of their teaching. In the beginnings of home economics instruction the teachers who attempted to plan their courses to fulfill the purposes outlined by the manual training enthusiast or by the general educator found themselves wandering in a maze of vaguely worded aims that became even more vague when an attempt was made to use them as the basis of a course of study. Almost any topic or any method of teaching could be justified in terms of formal discipline, training of head and hand, industrial intelligence, cultural value, etc.

The identification of home economics instruction with vocational education gave one objective that might seem to be fairly definite, to give power to do a particular job—homemaking. That vocational ability or power to do does not, however, constitute a clearly drawn objective is evident from the confusion of purposes to be seen in courses in vocational home economics: some emphasize constructive ability, the acquisition of skill, and the giving of information, while others are concerned, primarily, with a study of household problems in order to develop judgment and appreciation rather than productive abilities.

The influence of the objectives of general education and vocational training on the aims of home economics teaching may be seen in most published statements of such aims. Probably the most comprehensive report of the stated aims of individual home economics teachers is to be found in a

bulletin of the U. S. Bureau of Education.¹ This report embodies the replies of 183 teachers or supervisors each of whom attempted to define the aims of home economics teaching in the elementary school. About two-thirds of these teachers emphasize the immediate practical nature of their courses—some in terms of skill in different pieces of work, others in more generalized terms of making better homemakers or to improve the conditions found in the homes; one-sixth of the number expressed their aims in terms of special disciplines; one-seventh in terms of interpreting home life.

Although most of the statements of aims quoted in this report are fragmentary and inadequate, they present a general picture of the objectives that home economics teachers have thought desirable. In spite of their diversity, these statements have two marked characteristics: (1) They usually emphasize vague, generalized, social or educational objectives that have little relation to the actual work of the courses. (2) When more attainable objectives are stated, the greatest emphasis is given to the acquisition of skills and information.

The lack of clearly conceived and clearly stated objectives of teaching has been a serious disadvantage to home economics teachers. There is nothing that will contribute more to a common realization of teaching problems and of the standards that should be established for courses than a statement of the demonstrable purposes of such courses. As was noted before, aims should be expressed both in social terms and in terms of relation to the learner and the learning processes. The following outline groups under these two headings many of the stated objectives of home economics courses.

¹“Education for the Home.” United States Bureau of Education, Bulletin No. 37, page 76. 1914.

Aims in social terms

1. General objectives.

To create interest in household problems.

To teach efficient use of the necessities of living: food, clothing, etc.

To develop better standards of living in the community.

To promote a higher degree of respect for all classes of workers.

To give knowledge of the materials of daily life.

To make students more intelligent about the occupations that contribute to their welfare.

2. Vocational objectives.

To give skill in household activities.

To give training in homemaking.

To give ability to cook or sew.

Aims in educational terms

1. In terms of learning.

The acquisition of information.

The formation of habits—motor and mental.

The growth of ability to discover and solve problems.

The growth of appreciation and understanding of general meanings.

2. In generalized terms.

For general culture.

To provide for the complete development of the child through manual activities.

To provide for self-expression.

To train in neatness and accuracy.

To train the "head through the hands."

To provide centers of correlation.

To give concreteness to school work.

Aims in Social Terms. In the preceding outline social aims are divided into two groups: those that are concerned with the general social efficiency of the individual, and those that are more directly related to his vocational efficiency. This corresponds to the differentiation in purpose of general and vocational education. That a clear distinction between these two groups of aims is not seen by many home economics teachers is evident from the confusion of

purposes seen in vocational and non-vocational courses. The statement of the aims of a course may be expressed in broad general terms, and the character of the work done by the class may emphasize vocational efficiency, while in another course the opposite situation is seen. If the aims of a course are to serve as the standard or objective by which it is planned, the difference between these two types of social aims should be clearly seen.

Vocational objectives. The identification of home economics instruction with vocational education has already been noted, and, as would be expected from this, vocational objectives have dominated largely the statement of aims of home economics courses in both elementary and secondary schools. To teach a girl cooking in order that she may be able to assist in the work of the home, to teach her sewing that she may make her clothes, is merely another way of saying that we are giving her training in a special vocation.

Vocational efficiency is a most desirable objective of many secondary school courses. Is it the most valuable social objective for elementary school courses? Should instruction in these grades be given to secure skill in the activities of cooking, sewing, cleaning, and serving, or should it consist of a study of home life in which the elementary facts of sociology, economics, science, and art are grouped around the activities of the home? Is this the best time in the life of a girl to give her training in homemaking? Is the vocational motive strong enough during the elementary school period really to secure the results that we claim for such training? These questions do not imply any underestimation of the value of the activities of cooking, sewing, etc., in the grades. They are fundamental occupational activities the value of which as educational material has been noted before. The issue that is raised is in regard to the contention that every girl must acquire skill in the

production of certain definite household commodities or in the performance of definite household services as part of her elementary school experience.

The following quotation which is representative of the work in many elementary school courses illustrates a statement of objectives of home economics teaching in which vocational efficiency is emphasized:

“The girl completing the eight grades of school should be able to plan, purchase, prepare, and serve a simple meal for a family of average size having a moderate income. She should be able to choose food materials with discrimination, recognizing those which give adequate food value in proportion to the price asked, and deciding intelligently the quantities suitable for the use of the family for which she buys. She should be able to wash windows neatly, keep a kitchen in order, care for floors and windows, make a bed, and dust a room properly. She should know how to use a commercial pattern in garment making, manipulate a sewing machine effectively, and do hand sewing neatly; this skill with needle, machine, and patterns should amount to an ability to make all of her own plain garments.”¹

General social objectives. Any study of the subject matter of home economics courses has social value, for every course, no matter how technical in character, gives students some interest in and understanding of household problems, or leads to the formation of socially useful habits or to more intelligent use of the necessities of living—food, clothing, etc. The course that has the greatest social value, however, is one that gives students the most help in adjusting their own personal or family experience to that of other members or groups of the community.

Home economics teachers have attempted to emphasize the social value of their courses by stating their aims in such general terms as the following: “to develop better standards of living in the community,” “to dignify the work of the home,” “to obtain a right attitude towards home life,”

¹ U. S. Bureau of Education. Home Economics Circular No. 4, page 2. 1917.

etc. Such statements represent the hopes or desires of the teacher as to the results of her teaching rather than definite attainable objectives that will influence her choice of subject matter and methods of teaching.

The acquisition of socially useful habits and information, the development of insight into the social significance of some situation or of some activity or experience of the class, the growth of sympathy with the needs and problems of other girls or women employed in the home or in other occupations, are all attainable objectives of home economics courses. In outlining the social aims of a course, a careful study should be made of the particular habits or information that a class needs to acquire and of the particular situations, problems, or experiences in which social insight is needed, for the objectives that influence the work of a course are those that are definite and concrete.

Aims in Educational Terms. The two groups of aims included under educational aims in the outline on page 222 illustrate a sharp contrast, as one group consists of definite measurable objectives, while in the other are placed all of the vague, abstract, and indefinite objectives that have at different times been offered as ends of home economics teaching. Of the latter group, some are based on faulty psychology, some are in terms of organization of subject matter rather than in terms of learning, while others are so general that it is difficult to give them definite meaning.

Although aims expressed in generalized educational terms are often found in the statements of the objectives of home economics courses, there is no evidence that teachers consider these objectives in the planning of their courses or that they in any way influence the character of the work done in class. Their use is simply a formal attempt to conform to an educational ideal supplied by some one else.

Aims that have real meaning will help in choosing and planning the activities of the students, and, since student activities are learning activities, aims expressed in terms of learning should provide concrete objectives for class experience. The acquisition of information and skill, and the development of power to analyze and solve problems and of appreciation or understanding of general meanings are all ends that may result from the work in a home economics course. The achievements of a class will depend usually upon the extent to which each of these ends controls the planning of the course and is a conscious objective of the teacher. The aims that dominate the teaching of one unit of a course may differ from those of another unit, for in some topics manual skill may be the primary objective, while in others, the acquisition of useful information, the growth of appreciation or of ability to solve problems may be the dominating motives.

Standardizing Home Economics Teaching. As a means of developing greater uniformity in the quality of courses, there has been much discussion of the values or disadvantages of standardizing home economics courses in the elementary and secondary schools. In many of these discussions there has been evident confusion between the advisability of making a standard course and the establishment of standards by which to measure the achievements of the pupils. The establishment of exact standards for the measurement of school work is difficult in any subject including such a variety of activities and relationships as does home economics, yet there is just as great need in home economics as in other subjects of elementary and secondary instruction for a measure of the abilities of the children of different grades and of their actual accomplishment under specified conditions.

The following outline suggests the characteristics of the

standards in each of the measurable objectives of home economics teaching that would be valuable in securing greater uniformity in the quality of the work in home economics courses. It is evident that such standards can be established only after much careful analysis and experimentation by individual teachers as to the results of their teaching and a thorough study of the social value of the activities and subject matter of home economics.

1. The establishment of satisfactory degrees of skill that can be attained by students of a given grade in any particular manual problem.
2. Agreement on the socially useful information in each division of home economics that should be acquired by the end of each grade or each unit of instruction.
3. Tests or measures for each grade of the ability of students in grasping and solving problems, and establishment of the type and complexity of problems that they are able to solve.
4. Establishment for each grade of the standards of attainment in æsthetic and social appreciation that students should demonstrate in making choices or in deciding upon a line of action in relation to some social situation.

The establishment of standards of accomplishment for students in the different grades should serve several purposes. (1) It will give teachers concrete objectives by which to judge not only the accomplishment of their classes, but also the standards that they individually have established for their own work. (2) When standards can be put in the form of measuring scales, they are most valuable in giving the individual student a basis for criticising the quality of her own work, as was suggested in the discussion of motor training in Chapter II. (3) Probably the most important result would be the improvement in the quality of home economics teaching, for consciousness of need and realization of possible achievements are the basis of improved teaching, and established standards will make such improvement universal.

Though there is no common agreement among home economics teachers as to the desirability of standardizing courses, this problem is beginning to receive greater attention wherever a scientific study of home economics education is being undertaken. Suggestive tests and scales¹ for measuring the accomplishment of students in different courses are gradually appearing. These are evidence that home economics teachers are beginning to turn their attention toward the results of their teaching and, as an outgrowth of this, toward the purposes of their teaching, also. Such studies should lead finally to a common realization of desirable teaching standards.

PROBLEMS

1. From the outline of any elementary or secondary school home economics course state the demonstrable aims.
2. What degree of skill in cooking and sewing would you expect seventh and eighth grade children to gain as a result of thirty-six lessons on foods and seventy-two lessons on clothing?
3. Select a secondary school food course that is outlined in detail and show the relation of the aims of the individual lessons to those of the topic of which they are a part, and those of the topics to the general aims of the course.
4. In what ways should standards established for vocational courses differ from those of non-vocational courses?
5. Describe the characteristics of a general home economics course offered in a school attended mainly by the children of foreign groups that has as one of its aims to interpret the American standard of living.

¹The Measurement of Certain Elements of Hand Sewing. Teachers College Contributions to Education, No. 103. New York: Columbia University.

Home Economics in American Schools. Supplementary Educational Monographs, Vol. II, No. 6. Chicago: The University of Chicago.

6. Outline a test that you think would measure the growth of appreciation in any of the following: color harmony; appropriate and good design; a social attitude towards household service; the economic relation of the home-maker to the community.
7. What are the advantages and disadvantages of standardizing instruction through text-books?

Supplementary References

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CHAPTER XI

HOME ECONOMICS IN VOCATIONAL AND LIBERAL EDUCATION

OUTLINE OF THE CHAPTER

HOME ECONOMICS AS A VOCATIONAL SUBJECT.

REASONS FOR CONFUSION BETWEEN VOCATIONAL AND NON-VOCATIONAL WORK.

Analysis of homemaking activities.

HOME ECONOMICS IN NON-VOCATIONAL COURSES.

HOME ECONOMICS IN VOCATIONAL EDUCATION.

Training for trades.

Training for technical vocations.

1. Industrial activities growing out of home activities.

2. Homemaking.

Vocational training under the Smith-Hughes Act.

STANDARDS IN VOCATIONAL HOME ECONOMICS.

SUMMARY.

Home Economics as a Vocational Subject. We have already noted the close identification of home economics with vocational education as evidenced by the dominance of a vocational aim in much of the elementary school work and the degree to which the extension of home economics teaching followed the development of vocational education. Whether the work in home economics offered in the secondary schools is really vocational depends upon the interpretation of this term. There are few subjects taught in the schools which are not capable of a vocational significance when taken as part of the training for a definite commercial, industrial, or professional vocation. Chemistry is a

vocational subject in the college when taken as part of the training of a chemist—a vocation of professional grade—yet it is considered non-vocational in the secondary school. Home economics is considered a vocational subject, but in a study of a group of secondary schools it was found that, out of sixty-three teachers, fifty-five teachers specified the non-vocational character of their courses.¹

There seems to be a distinction between a vocational subject and the vocational organization of a subject. In general terms the degree to which a field of instruction may be related to a definite vocation or the extent to which it includes activities of a practical nature seems to be the usual basis for designating a subject as vocational. The subject matter of home economics contributes directly to the vocation of homemaking, and several of the activities of the homemaker are such that training in these lines may be of secondary school grade. In this sense, therefore, it is a vocational subject. Is it not possible, however, to organize subject matter in such a way that the vocational relationship is completely lost? Or in other words, a subject is vocational only to the degree that the aims of the course, the selection of subject matter, and the methods of instruction are adapted to training for a definite vocation. It is here that most of the misunderstanding in regard to the vocational character of home economics rests. We have claimed that we were teaching home economics because of its practical values in the home, and we have used methods and equipment that prevented the realization of our aim. Courses have been labeled vocational by school administrators, while teachers have been developing what they called non-vocational courses. Home economics is not the only

¹L. V. Koos. "Administration of Secondary School Units." Supplementary Educational Monographs, Vol. I, No. 3, page 138. Chicago: University of Chicago.

type of work in which such confusion has arisen. It has been seen in some of the older vocational work for boys.¹

A clear distinction has been made in all vocational education literature between the type of education which is planned to secure vocational efficiency and the type which, while using similar forms of subject matter, is planned to develop appreciation and general intelligence. Vocational education implies the use of subject matter and methods of teaching that will give students power to perform a definite job, while in general education the purpose of instruction is to contribute to the social understanding and general abilities of students. In order to prevent confusion the term non-vocational will be used in the following discussions to represent the work in home economics that has a general rather than a vocational value.

Reasons for Confusion between Vocational and Non-Vocational Work. 1. One of the reasons that has tended to emphasize the attitude that all work in home economics is vocational has been the almost universal agreement that homemaking is the normal activity of so large a proportion of women that some training for this vocation should be given to every girl. Since the need for such training is so general, any work in home economics, even that which emphasized highly specialized skill, has been considered of general educational value to girls. Before such a point of view should dominate our thinking and our teaching, we need a far clearer definition than we have had of those aspects of homemaking that are essential activities of all homemakers, irrespective of particular demands entailed by the character of the family group and their economic status.

2. Another reason why it is difficult to distinguish between vocational and non-vocational work is that the ele-

¹C. A. Prosser. "Study of the Boston Mechanics Arts High School." Teachers College, Columbia University.

mentary activities of cooking, sewing, and cleaning, that are used in practically all beginning classes, can be carried out with relative ease under conditions similar to those found in the actual job at home. Most of these classes, therefore, reproduce one of the essential conditions of vocational work. The problem of vocational education is not only to give laboratory experience in household activities, but to give such experience under conditions which will initiate practical working habits in order that students may acquire skill in the performance of a real job. While actual household working conditions will give more vitality to a non-vocational course, they are not essential conditions of a course the aim of which is the development of appreciation and general intelligence about the home and its interests and activities.

3. Probably the most fundamental reason for failure to recognize the real character of courses has been that the unstandardized nature of the vocation of homemaking has made it very easy to talk in general terms. Homemaking is unstandardized because it is considered a non-wage-earning vocation; and to a world controlled by economic relationships, wage-earning represents the value that it places upon different degrees of efficiency. Another cause of lack of standardization is that the work of the homemaker varies with the demands of the individual family; there is no standard "standard of living." A third cause is the character of homemaking itself. It includes the performance of a large number of fairly elementary activities, but it also needs maturity of judgment and ability to appreciate social relationships such as can be secured only by broad and liberal training or experience.

Analysis of homemaking activities. In spite of the difficulties outlined above, there is need for a clear distinction between the two types of courses in order that we may

develop those methods of training and make that selection of subject matter which are necessary to secure the two aims—ability to perform or appreciation. One of the first steps toward such a distinction would be to decide which activities of the homemaker are primarily productive and which are valuable in establishing right standards of utilization or consumption.

We are constantly being told that women are consumers, not producers. Although to a large extent women do control the standards of consumption of their families, this statement ignores the fact that a great many of the activities of the homemaker are productive activities. The exercise of choice may add to the value of the thing selected just as much as any more concrete phase of production. Increasing the value of a room as a living place by cleaning it is a productive activity; making food materials more edible through cooking is a productive process. Such illustrations could be extended indefinitely through the various household activities. Unquestionably, the character of the productive work of women in the home has changed. There has been a gradual elimination of the production of concrete goods from raw materials, such as the making of cloth and shoes, and household production has gradually assumed the form of performing personal or household services and the enhancing of the value of household commodities through intelligent choice or through a limited manufacturing activity, such as cooking.

In nearly all productive work, whether in the form of making concrete goods or in the form of professional or more elementary types of services, there is a definite wage value attached to the activity. The vocation of homemaking stands apart from all other vocations, in popular conception, as one in which the satisfaction or pleasure of the family or the maintenance of the efficiency of the family and not

wage-earning should be the legitimate return or reward from the activity. Can we not, however, use the standard of wage-earning value as one method of helping us distinguish those activities which require skill in performance rather than appreciation?

As a means for a more comprehensive analysis of the problem, the various household activities may be grouped so as to show the difference between those that have a definite wage value and those that are not so easily measured in such terms.

(1) Activities which have a clearly defined wage-earning character or which represent a definite addition to or saving of the family income when pursued by members of the family: cooking, sewing, laundry work, mending, cleaning, physical care of children, nursing the sick, waiting on the table, etc.

(2) Activities whose addition to the income is less easy of estimate, which represent large savings when the expenditure of a large income is involved, but which are mainly measured in terms of satisfaction to the family when the income is small: planning and purchasing of clothing, food, and equipment; organization and direction of the labor of the house, planning schedules, establishing the standards of service, etc.; planning the family budget, account keeping, etc.

(3) Activities which have value almost wholly in terms of satisfaction to the family rather than wage-earning—those having to do with the control of the æsthetic, intellectual, and social environment.

The extent to which the homemaker herself will carry on the activities which are here outlined as her job will depend upon her economic status. In a family whose income is small, the homemaker, feeling the necessity of adding to it, will perform most of the direct wage-earning

activities up to the limit of her time and strength—even, unfortunately many times, beyond her strength. As the income increases she will gradually eliminate from her duties certain of these activities. Laundry work and sewing which may be performed outside of the home are most often eliminated, though special aptitude or ability in sewing may mean the retention of this activity even to the extent of employing paid service to do the cooking in order that the homemaker herself may make the clothes of the family. In families where the income is ample, practically all of the activities included in group 1 are performed by paid service, and the homemaker retains only those in the exercise of which she takes pleasure or feels that her performance pays in satisfaction to the family. Such a homemaker spends the time given to her job on the activities which we have included under 2 and 3.

Since the activities that are included under 1 are not performed by all women, to give wage-earning skill in the performance of these activities is clearly the function of vocational education, not general education for girls. For example, since it is possible to buy ready-made or custom made clothing, the retention of most of the sewing in the home is due to the smaller cost of home-made articles, which represents money earned by the home worker. To teach a girl dressmaking is to give her training in the rather unstandardized activity of home seamstress or dressmaker. Is not the primary aim of such training distinctly vocational—to give a girl power to produce, which represents wage-earning skill? In contrast to this, suppose that we eliminate sewing from our course in clothing, giving only such training in textiles, costume design, and standards of workmanship as will make a girl efficient in choosing her clothes. Is such work equally “vocational,” or is the value of such a course that the basis has been given for greater social use-

fulness in terms of economic use of resources and the pleasure that comes from an enriched and intelligent choice? In actual practice most of the clothing courses include both of these elements. A course in which the "making" aspect takes a large proportion of the time will be more directly vocational in character than one which emphasizes choice, if we agree to the previous interpretation.

To carry this illustration into the next group of activities, is not purchasing, the activity in which she exercises choice, one of the productive activities of the housekeeper just as much as cooking and sewing? Has it not, also, a wage-earning value more difficult to estimate than that of sewing but nevertheless demonstrable? Unquestionably so, but do we usually give a girl training in purchasing? Training in purchasing means that students should be given not only the appreciation of values essential to right choice, but, also, a study of market prices and market organization with extended practice in the actual purchasing of all types of household supplies. There are probably two reasons why we have not developed training in purchasing in the secondary school: the difficulties of standardizing and supervising the practical work, and the immaturity of the students. This is one of the activities of the homemaker for which an attempt is made to give appreciation rather than power to do.

Home Economics in Non-Vocational Courses. Courses in home economics that are given for their general educational value rather than for their vocational value should have as their aim the development of appreciation in those aspects of home economics which have the greatest social value to the individual. Many of the problems and activities of the home, such as selection of food, clothing, and house furnishings, establishment of the standard of living, establishment of the social relationships of the fam-

ily, maintenance of health, etc., are not exclusively the duty of the homemaker, though the mother of the family exercises choice for her family during its youth. Some understanding of or appreciation of these activities and problems should be included in the training of all boys and girls. As we have noted before, home economics, though it gives an opportunity for a more comprehensive study, is not the only subject offering instruction in these lines, for courses in art, hygiene, biology, economics, and sociology give some of this material.

The use of productive activities, such as cooking, sewing, laundry work, cleaning, etc., in non-vocational courses is justified, if these activities are looked upon as a means rather than ends of such training. In the elementary school these activities are the natural approach to household problems, but their place in secondary school work is not so clearly defined. There is need for the establishment of definite standards for non-vocational home economics courses. Such definition should offer the solution of the following questions:

1. What proportion of time should be spent on the making of garments and the cooking of meals?

2. Should we emphasize the selection of clothing, food, and housing rather than the activities of cooking, sewing, and house care?

3. What principles of economics, art, and science will make a girl intelligent in her choice of the essentials of living, and what proportion of the time of the course should be spent on studying these principles and their applications?

4. Are we able to put enough illustrations from home economics into art, economics, civics, and science courses to give a girl appreciation of the problems of right living without requiring a course in home economics?

5. Can we organize a course in home economics that will

be so valuable to all girls, irrespective of their immediate vocational demands, that it should be required for all students in the secondary schools?

Home Economics in Vocational Education. There are various vocations to which the subject matter of home economics contributes. These vocations are of different grades—trade, technical, and professional, as is seen in the following outline:

A. Vocations of trade level.

1. Household employees or assistants: cook, waitress, housemaid, child's nurse, etc.
2. Specialized workers in the needle trades.

B. Vocations of technical grade.

1. Homemaking: housekeeper or limited interpretation of homemaker.
2. Household assistants: who have training that qualifies them to assume responsibility.
3. Needle trades: fitter or forewoman.
4. Food industry: assistants in institutional work or catering.

C. Vocations of professional grade.

1. Specialist in household administration.
2. Designer of clothing and furnishings: coördinating with art training.
3. Dietitian, institutional manager: coördinating with social economy.

Any thoroughly effective vocational training contains three types or groups of studies and practices: (1) the *concrete*, specific, or practical studies—food preparation, dressmaking, household management, etc.; (2) the *technical* studies that consist of art, mathematics, and the natural and social sciences in their various applications—household chemistry, art, physics, etc.; (3) the *general* subjects—English, history, etc. The distinction between the different grades of vocational training—trade, technical, and professional—is based on the extent of the training that is essential for the vocation, on the maturity and capacities of the

students, and on the difference in emphasis on each of the three types of work—concrete, technical, and general.

Training for trades. It is evident that the training given at a trade level places its greatest emphasis on the concrete subjects. The technical work is simple in character, and only enough is given to furnish the basis for intelligent practices. Such training is generally offered to students of from fourteen to sixteen years, and is elementary in character. In some elementary trades vocational efficiency may be secured by a few months' training. In the vocations to which home economics contributes there has been little offered of the trade grade in the United States except in the needle trades, for which very effective training has been given in such schools as the Manhattan Trade School, the Boston Trade School for Girls, and a few others of similar grade.

There is no school that, at the present time, is offering extensive training for the household occupations of cook, waitress, etc. There have been several attempts to establish such schools in various cities, the most notable attempts being the Household Aid Company of Boston and the School of Housekeeping in St. Louis. Such schools have failed to carry on this work more than two or three years because of inability to secure students. There are many complex social factors¹ which lie back of this failure. The result has been that training in these lines still continues to remain almost entirely under the apprenticeship system. Many of the short unit courses in food, child care, serving, sewing, etc., offered as home economics extension courses in vocational high schools, have the general characteristics of trade courses, and there is every reason to believe that through

¹ Note. These were clearly brought out in the Report of Household Aid Company, published by the American Home Economics Association.

part-time and continuation work in home economics will lie the future development of training for household assistants of this grade.

Training for technical vocations: 1. Industrial activities growing out of home activities. In the vocations of technical or secondary grade we have in the past offered little training to fit girls for industrial activities which are the outgrowth of home activities, though some rather highly specialized technical training in clothing and foods has been developed in the technical high schools of several cities. The organization of industrial courses in any school should follow a thorough study of the demands of the trade or industry in that locality. The experience of schools offering training for the needle trades in different cities has been that the demands of the trade in each part of the country were quite distinct. Most of the real vocational significance of the training in dressmaking, millinery, and catering offered in the technical high schools of different cities has been lost, because the demands of the industry in their localities were so unstandardized or required such long apprenticeship that few of the graduates of these courses went into the industry. What has really been taught in these classes has been trade methods for home use.

Courses of study in dressmaking and millinery planned for technical high schools have differed from those offered in such schools as the Manhattan Trade School and the Boston Trade School in the greater amount of time spent on costume designing, fitting and pattern making, hat designing and trimming, etc.: these are the more advanced problems which require more art training and which belong in technical not in trade courses. Unfortunately, many of the technical high schools have failed to establish the school shop with a high grade of order work which has characterized the work of the best trade schools. Actual

shop conditions, either in the school, shop, or in a high grade dressmaking establishment, give both training in shop method and also an opportunity for working on a large variety of best grade materials, not always to be secured when school order work is secured through the family or friends of the members of the class. It is safe to say that the value of a trade or technical dressmaking or millinery course is in direct proportion to the quality of the order work in the shop, since the quality and texture of fabrics is such a significant factor in costume design and in the types of construction that are used.

Courses in lunchroom cooking or catering have been offered in several cities. These courses usually place their greatest emphasis on the acquisition of skill in large quantity cooking and fancy cooking. The school lunch and order work outside of the school furnish the practical problems. The amount of responsibility taken by the students in planning and carrying out these projects varies greatly in different schools. Where the making of all business arrangements and the planning of the day's work is required of the students, such courses furnish valuable training in management and an opportunity to study business methods. Secondary school girls are too immature and inexperienced to assume charge of any commercial enterprise on leaving school and the number of opportunities for employment in catering that have been open to graduates of these courses, in the past, have been very few. Most of the students have used their training in fulfilling the demands of group or personal entertaining rather than in taking a regular position in a lunchroom or tea-room.

If catering courses are to serve a real vocational need they should have a closer relation to a real job and include the type of training that will fit a girl for it. One of the weaknesses of the training given in the schools has been

that students have had no opportunity to work under trade conditions or to study the problems of management under different conditions of equipment and service. The school lunchroom gives experience that is valuable, but some arrangements for part-time work in other institutions should be included in an effective vocational course. If this is accompanied by classroom study of lunchroom management, such a course should be most valuable, and students would be given promotional capacity and an insight into the problems of their selected vocation even though they are unable, because of their immaturity, to take a managerial position.

While the unstandardized nature of the dressmaking and catering industries will militate against the rapid expansion of continuation or extension industrial courses of a technical grade, there should be a prompt response from the vocational schools for any demand or evidence of need for more advanced training for women already working in these fields.

2. *Homemaking*. Homemaking is the technical vocation for which the greatest opportunity for training is offered. Under the Smith-Hughes Act we are beginning to develop vocational homemaking. As interpreted by the Federal Board for Vocational Education, this is a vocation of technical secondary school grade. This is seen in the special provision made by the Board for the technical and general studies which are essential elements of technical vocational training.

The development of part-time and evening courses in homemaking is a most significant part of the projected plan for home economics education. Such courses offer training for students who are already engaged in household activities, or who expect to undertake these activities in the near future. The vocational motive dominates these classes more completely than it does the full-time classes, as the

students see the opportunity for immediate use of their acquired skill or power to plan and execute home projects.

Popular demand will always make the acquisition of skill in the main household activities one of the chief purposes of these classes. It is important, however, that equal emphasis should be placed on giving the principles on which the activity is based in order that the students shall have a broader outlook, thus extending the practical results of the training beyond the problems undertaken in class. Continuation and extension courses in homemaking will drop back to a trade level unless this point is clearly understood.

Training for professional vocations is the problem of the colleges and universities, and it does not need to be included in this discussion.

Vocational training under the Smith-Hughes Act. The Smith-Hughes Act for vocational education provides a scheme of coöperation between the Federal Government and the States for the promotion of vocational education in the fields of agriculture, trade, home economics, and industry. The interpretation¹ of the Federal Board for Vocational Education created by this act defines homemaking or the activities of the homemakers and house daughters as the vocation for which training should be given under Home Economics Education. Training in industrial activities which are the outgrowth of home activities, such as the needle trades, catering, laundry work, etc., is provided for under Trade and Industrial Education. This distinction is based on the fact that homemaking is a composite vocation and requires special provision for adequate training, while training in the needle trades and similar specialized vocations is similar in character to the other specialized training given under Trade and Industrial Education.

¹Federal Board for Vocational Education. Bulletin No. 28, Home Economics Education.

Vocational training under the Smith-Hughes Act is designed to meet the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon employment. Such training must be of less than college grade, but includes training of both trade and technical levels; it may be offered in all-day schools, part-time day schools for trade preparatory or trade extension, and evening schools.

Effective vocational work should fulfill all the following conditions: (1) it should have direct relation to a definite occupation in which the student should be able to make immediate use of his training; (2) it should offer as nearly as possible identical working conditions in order to prevent loss in carrying over acquired habits from one situation to a different situation; (3) it should have clearly defined standards for all of the concrete products of such training, and students should be able to judge the market value of their products; (4) the methods of teaching should be those that will emphasize power of performance.

To what extent can these conditions be fulfilled in homemaking courses? One of the fundamental problems in giving training in homemaking is the fact that it is usually a deferred vocation. A large proportion of the girls taking these courses in the four-year high school will engage in some secondary calling before they marry and assume the direction of their own homes. The loss in interest and motive which results from this is a serious handicap. The extent to which this motive is supplied by the participation of the girl in the running of her mother's home is problematic. Many of the activities, therefore, may have to be carried on under artificial teaching conditions or conditions over which the girl herself has no control.

It has been suggested that the very nature of the problem may result in the deferring of strictly vocational home-

making training until such times as the vocational need of the girl is more clearly defined.¹ This issue has been somewhat modified by the interpretation of vocational home economics, by the Federal Board for Vocational Education, as offering training not only for the homemaker but also for the house daughter. Although this eliminates the criticism of training for a deferred vocation, it does not simplify the problems, since the activities of the house daughter vary even more than those of the more responsible homemaker, the mother of the family. As the methods of vocational home economics develop and the home project brings the school and the home closer together, the influence of the training given to the high school girl should result in raising the standards of achievement and the appreciation of problems in the home, in increasing the value of the home as a practice field, and in giving a vocational significance to the home activities of the girl.

As was noted before, household activities are unstandardized and non-wage paying, both of which add to the difficulty of estimating the time and products of the home worker, another of the essential conditions of efficient vocational work. If we are ever to secure the same type of efficiency in the home that is being demanded from all other workers, there must be a change in the evaluation of home work to a wage-earning standard that will give as definite a recognition of time value as in other vocations.

While it is not easy to secure actual home conditions for all the activities in which training is offered in secondary vocational home economics, the suggested use of school kitchens with home equipment,² the practice house, clinics

¹D. Snedden. "Problems of Secondary Education," page 292. Houghton Mifflin Co.

²"Cooking in the Vocational School." I. P. O'Leary. Bureau of Education, Bulletin No. 1, 1915.

and infant welfare stations, and the careful organization and supervision of home projects are all hopeful indications of an improved method.

Though many of the conditions of effective homemaking education will gradually be evolved after careful experimentation, the following conditions are imposed by the provisions of the Act or through the interpretation of the Act by the Federal Board:

(1) The Act provides that at least half of the time of instruction in all-day schools shall be given to practical work on a useful or productive basis. Practical work is interpreted "to include the practical work and related subjects in home economics, such as garment making, foods and cooking, sanitation and home nursing, house planning and house furnishing. The remaining half of the time may be given to related home economics subjects—applied art and applied science—and to non-vocational subjects."¹ The length of the course for all-day schools is not specified, but the general tendency in the different states seems to be towards the development of two and four-year courses. The time factor is significant as influencing the degree of skill that may be attained in homemaking activities.

(2) There has been no clearly drawn provision for securing shop conditions. Home equipment and the practice house are suggested, also work in hospitals and day nurseries. Furthermore, many states are requiring twelve months' appointments for instructors and are making provision for extended use of home projects. These are all evidences of a realization of one of the main problems of vocational training.

(3) While no specific requirements of methods of teaching are made by the Federal Board, it is advised that no

¹Federal Board for Vocational Education. "Statement of Policies." Bulletin No. 1, page 31.

formal division of time between laboratory and recitation be made and that laboratory time should be spent on productive work and not on experimental problems which have information rather than power to perform as their aim.

Standards in Vocational Home Economics. It is easily seen that these requirements do not draw a sharp line between the work in home economics given in the general high school and that undertaken as vocational home economics. That such a distinction is not drawn by many of the teachers of these courses is plainly seen whenever this point comes up for discussion in meetings and conventions. If we are to secure vocational efficiency in homemaking, it will be necessary to define more clearly the following problems of methods and types of training:

1. Where students can give only a year or two to homemaking training, should they be given a general survey of homemaking activities, or should they be given intensive skill-producing training in a limited number of household activities?

2. To what extent should technical knowledge of a problem precede the opportunity to perform the activity, in vocational work? For example, should a course in household management include only such topics in management as can actually be carried out by the girls in their own homes? Or how much discussion of child care is profitable where the actual care of children is largely an observation problem?

3. Is manual skill an essential element of power to perform? It is evident that homemaking includes the following types of activities: those that require manual skill—many of these necessitate a high degree of hand skill, while others need less skill; those that require some manual dexterity, but mainly power to see and think out problems; and those that require, primarily, power to analyze values, and see

relationships and to act on the final judgment. Does a course that emphasizes problem solving rather than manual skill fulfill the conditions of a vocational course?

4. There is need for a clear definition of the degree of skill that must be secured in each of the different household activities. This really means the establishment of household standards and an analysis of the relative value of the household activities. We are in need of careful studies of the demands and the needs of the homemaker. The conditions of living have changed so greatly that any educational agency must constantly compare its practices with those outside the school. Sociological investigation is giving to us many facts regarding what people eat and wear, but we have little material bearing on the activities of the homemaker.

An example of the need of such investigation is shown by the results of a study¹ of home sewing made in one of our large cities. Questionnaires were sent to 1,000 homes of secondary school students in order to find out the extent and type of sewing done in the home. The following points were noted:

(a) That most of the sewing was of an elementary type requiring simple construction and no costume design—household sewing, underwear, and waists occasionally.

(b) The sewing done represented that receiving the smallest wage return for the time spent.

(c) The girls preferred to buy their dresses and waists, because they had more style.

Should we be satisfied to give our students a high degree of skill in the elementary types of sewing, or should we reduce plain sewing to a minimum in our courses and emphasize costume design and dressmaking, which would realize a higher wage return for the time spent, or does this

¹ Unpublished paper presented at the Conference of the University of Chicago in Coöperation with the Secondary Schools. 1917.

require too specialized skill to be made part of the training for a homemaker?

5. To what extent does the term vocational efficiency imply a wage-earning ability in at least one of the main household activities? Should we be satisfied with minimum skill in all activities?

6. In order to secure the actual conditions for carrying out home activities, we need a clear definition of the methods and equipment that are best adapted to secure such conditions. The use of the "unit kitchen," short unit courses, and home projects are all methods whose efficiency has been proved. The possibility of developing part-time training in homemaking in which the girls will be engaged in wage-earning homemaking activities during their period of training has also been suggested. The unstandardized conditions of this vocation and the complex social relationships involved makes the universal development of such work problematic.

Summary. The development of vocational home economics under the impetus of the provision of Federal funds for the promotion of vocational education emphasizes the need for a clear distinction between vocational and non-vocational work in home economics. Such a distinction should strengthen the courses that are offered in each type of education, not only through more careful selection of subject matter, but through the adoption of methods of teaching that will secure the results for which each aims.

While there is need for this distinction, it is most difficult to draw a sharp line between these two types of courses. Because of the variety and complexity of household activities, it may be desirable to accept appreciation rather than power to perform as the basis of achievement in some aspects of homemaking. In such courses the aims and methods of teaching may be identical with those of non-

vocational courses. In general, however, vocational home economics is concerned with the needs and activities of the women or girls who intend to devote their time and interest to home life, and vocational courses must give enough emphasis to manual and managerial skills so that the students can carry out the demands of their chosen vocation. Non-vocational courses are concerned not with the specialized needs of the homemaker, but with the need of every one for some understanding of the problems of daily living. And it is the ability to think out and understand these problems that is the main objective of these courses.

Both vocational and non-vocational courses should have a definite place in the secondary school curriculum. Although each serves a particular need, their purposes are essentially the same—to increase the influence and efficiency of the home. The training given in vocational courses is more complete and comprehensive, but even non-vocational courses should stimulate a demand for thorough training for that fundamental vocation—homemaking.

PROBLEMS

1. For what type of secondary schools and for what groups of students would you organize non-vocational home economics courses?
2. What is your opinion of offering home economics courses that are vocational in character as electives in a general high school?
3. What arguments can you give for requiring one unit of home economics for all girls in the secondary schools?
4. Study reports from The Federal Board for Vocational Education and compare the present conditions for effective vocational work with those outlined for 1919.
5. Make a list of the homemaking activities carried on in a home with which you are familiar. What proportion of the time of the homemaker is spent in potentially wage-earning activities?

6. Discuss the following statement: "The woman in business who at the same time manages her home with the least possible expenditure of time, money, and energy, but with satisfying results, nevertheless, in home comfort and cheer, may do so with a minimum training in homemaking; but the woman who makes homemaking her life work should be trained intensively for her occupation."
7. Outline two groups of short unit courses in homemaking to be offered in the evening schools; one group of trade grade and the other of technical grade.
8. Outline the characteristics of the work on waist making that might be given in a general high school, a technical high school, and a trade school.

Supplementary References

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CHAPTER XII

THE NATURAL SCIENCES AND HOME ECONOMICS

OUTLINE OF THE CHAPTER

METHODS OF CORRELATING SCIENCE AND HOME ECONOMICS.

PROBLEMS IN SCIENCE TEACHING THAT AFFECT CORRELATION.

CHEMISTRY.

General chemistry.

Household chemistry.

PHYSICS.

BIOLOGY.

GENERAL SCIENCE.

There has always been a definite attempt on the part of home economics teachers to coördinate their courses with the other subjects of the curriculum, especially in the case of the natural sciences and art. The necessity for using facts and principles of science to explain the materials used in the home and the phenomena encountered in household activities has been the reason for the dominance of the subject matter of science and the methods of science teaching in many home economics courses. The following table shows the extent to which home economics teachers attempt coöperation with other subjects:

TABLE¹

"Number of teachers making efforts to correlate home economics with various other high school subjects.

<i>Correlates</i>	<i>Number of teachers</i>	
	<i>Reporting efforts to correlate</i>	<i>Reporting intimate correlation</i>
Botany	24	5
Biology	16	1
Physiology	22	5
Hygiene	21	25
Chemistry	22	26
Physics	25	8
General Science	21	6
Geography	11	2
History	14	1
Civics	10	1
Economics	19	7
English	29	5"

From this table it is evident that while correlation with most of the science work of the school is attempted, the most effective correlation has been with chemistry and hygiene.

The coöperation between science and home economics has been of three types: (1) the requirement of science courses as prerequisite to food and sanitation courses; (2) the use of coördinating courses in science and foods; and (3) the incorporation of science material in home economics courses and the use of illustrative material from home economics in science courses.

Methods of Correlating Science and Home Economics. 1. The use of prerequisite courses in science has been a marked characteristic of the training of home economics teachers in higher institutions. This would prob-

¹L. V. Koos. "Administration of Secondary School Units." Supplementary Educational Monographs, Vol. I, No. 3, page 134. Chicago: University of Chicago.

ably be reflected in their work in the secondary school if it were not for two conditions which interfere.

One of these is the extensive use of home economics as an elective subject. The requirement of prerequisite science work, unless such courses are required of all the students in the first year, would undoubtedly reduce the number of students who would elect the home economics courses. As a result of this, prerequisites are practically never required where such possibility of election exists.

A second condition which has prevented the extensive use of prerequisites has been the position of science courses in the secondary school curriculum. In the study made by Koos the following facts were shown: (1) general science is almost always listed in the first year; (2) the biological sciences are most commonly reported for the second year, sometimes in the first year and occasionally in the later years; (3) chemistry is a third or fourth year subject, with some preponderance of practice for the fourth year; (4) physics is also a third or fourth year subject, but is more usually found in the fourth year. While there is evidence of a growing tendency towards a less static position of science courses in the curriculum, our present practices are affected by this situation. Since chemistry, which is most often correlated with home economics, is seldom offered before the third or fourth year, the requirement of this course as a prerequisite for food courses is manifestly impossible; in the case of the biological sciences and their application, hygiene, there does not seem to be this limitation.

In spite of these limiting conditions, the use of prerequisite science courses is much desired by a large number of home economics teachers. Such a desire implies that there would be extensive use of material from the prerequisite course in the home economics courses which follow such instruction. One of the common criticisms of

home economics courses, however, is that they do not use such material to a sufficient degree to justify the use of science courses as a prerequisite.¹ What is it that the home economics teacher wishes to carry over when she requires chemistry as a prerequisite for a food course? Are there a sufficient number of facts or principles that must be used to explain the problems of food preparation in such a course as to warrant its requirement, or is the use of the material of the chemistry course more general, such as the carrying over of certain concepts of chemical reactions and methods of thinking or working which will make the food course more vital? The contributions which the different sciences and the different types of courses make, vary so greatly that a more complete discussion of this point will be taken up under each particular form of science.

2. The use of coördinating courses has been suggested as an effective method of securing correlation between science and food and sanitation courses; by this is meant to offer science and food or sanitation in a single unit, the class meeting three days for science and two days for food, or *vice versa*. In this plan it is expected that each part of this course will maintain its own identity, using the type of instruction that will be most effective in each aspect of the course.

The advantage that is claimed for this method is that the science material will secure such immediate use that it will have greater meaning. To make such a course thoroughly effective, however, would mean that the subject matter of the two divisions of the course should synchronize—an almost impossible requirement unless one teacher gives both. Furthermore, such a plan will require a modification or adjustment of the sequence of subject matter in one or

¹ C. H. Judd. "Psychology of High School Subjects," page 298. Ginn & Co.

both divisions of the course in order to secure close co-operation. The greatest advantages of this plan are that it insures a more comprehensive study of science topics than is usually undertaken when these topics are incorporated directly into the food course; and because of the association with the food courses, the science topics selected are those having most direct relation to the food work. Both of these advantages can, also, be secured by presenting these same topics in a separate household science course.

3. The incorporation of science material directly into the home economics course or the use of illustrative material from home economics in science courses is the method of coöperation most usually found in secondary school work. This is illustrated by the inclusion of subject matter and experiments to illustrate and explain science problems in all of the most effective secondary school home economics texts. It is obvious that science courses contain much material that is essential to understanding many processes used in the care and preparation of foods, the care of the house and the maintenance of the health of the family; and if one of the purposes of home economics courses is to give power to analyze and solve household problems, students must be given the basic facts and principles that the sciences can contribute. The attempt, however, to include in food, sanitation, or housewifery courses an explanation of all the scientific problems that are involved will reduce the amount of time that can be spent on the practical or the social, economic, and æsthetic aspects of these subjects.

The decision as to the best method of coördinating science and home economics courses must be based primarily upon the use that is to be made of the science material in the home economics course. Science material that is necessary for control of processes must be given in prerequisite courses, or else it must be incorporated into the

home economics course, while science material that has a less direct bearing can be given in a less intimately related science course. There is evidently need for a clear definition of the topics or problems of science that are essential to the intelligent control of household processes and of the type of science course that can give these topics in the most usable form.

A survey of food and housing text-books will show that in the science topics that are included there are problems from biology, physics, and chemistry, with the emphasis in about the order in which they are given. This would indicate that there is greater need for the requirement of biology or physics than chemistry as a prerequisite for food or house courses, or for the requirement of a general science course that emphasizes biology and physics topics, or that includes concrete topics which are related to the problems found in home economics courses.

Problems in Science Teaching that Affect Correlation. There are several tendencies in the organization of science courses that should be carefully considered by home economics teachers: the increasing number of elementary courses that are organized around concrete topics; the increasing use of a large number of practical illustrations even in courses that emphasize principles; the less static position of the individual sciences in the curriculum; and the increasing use of specialized courses for boys and girls based on their vocational interests.

The organization of science courses around concrete topics or practical problems is seen in most general science courses and in "applied" physics or chemistry courses, "civic" biology courses, etc. This is an elementary method, but it introduces students to a usable fund of knowledge about practical things, and it gives to them a scientific method of studying common problems. The increasing use

of illustrative material from other subjects or from the vocational interests of the students is giving greater vitality to the more theoretical courses that are offered in the senior high school. Science teachers have found that they can give just as systematic a study of chemistry, physics, or biology and show the applications of scientific laws far more effectively if their illustrations and problems deal with the special interests or experience of the class.

Home economics courses, or more specifically food courses, have been considered in a few cases as one type of science, and as such have been accepted as partial fulfillment of required science work. This is following the precedent established by agriculture, which is classified as a science subject. A scientific study of the changes produced in foods by cooking and of the principles of food selection may fulfill all the conditions of a science course. Home economics teachers should be cautious, however, about making too large a percentage of their courses conform to these conditions when the aims of the courses are vocational. Furthermore, the desire to emphasize the relation of home economics to the natural sciences usually results in subordinating the equally important material of the social sciences.

Chemistry. Chemistry has contributed to the explanation of many problems of home economics. It gives an understanding of the composition of household materials (food, fabrics, cleansing agents, etc.) and of the reactions of these materials in their use—the action of cleansing agents, chemical changes caused by cooking, digestion, and assimilation of foods, etc. It would seem that effective practice was dependent upon a fundamental knowledge of chemistry. A more careful study of the problem, however, will show that, though there are many situations in which a knowledge of chemistry would make for more intelligent control of processes, the chemistry involved is so complex

that they must be explained in terms of general principles without attempting to go back to their chemical basis. An illustration of this is seen in the experimental food work which has developed principles of jelly making, bread and cake making without attempting chemical explanations. In the main the chemistry of the secondary school is too elementary to offer explanations of many of the complex reactions that are found in the preparation and utilization of foods. Furthermore, it deals primarily with inorganic compounds, while organic and physiological chemistry contribute most to understanding of these problems.

General chemistry. Only a limited number of the facts learned in an inorganic chemistry course actually are used in food classes. With the exception of the occasional use of chemical formulas, the use of a few chemical terms, the use of chemicals for identification tests or the explanation of a few simple reactions, such as the action of acids on metals and carbonates, almost no use is made of inorganic chemistry in secondary school food classes. The principles or theories of chemical reactions are practically never used in explanation of food problems. This is a significant point, for it means that the most important part of the work done in the chemistry class is never referred to in the food course, and as a result of this, students see little connection between the two.

In all probability, students carry over into their food work from inorganic chemistry courses such general concepts as the meaning of chemical change, chemical compounds and elements, neutralization, oxidation, reduction, crystallization, etc. These are all valuable for a clear understanding of the changes produced in cooking processes, and time must be spent in a food course to explain these terms unless such explanations are given in a prerequisite chemistry or general science course. That it is possible to give

these concepts isolated from a formal study of chemistry may be seen in both food courses and general science courses.

The fact that most of the substances used for food are composed of organic compounds makes it apparent that organic or food chemistry can contribute much more to food courses than inorganic chemistry. Undoubtedly, the chemistry course which includes a study of the characteristics and reactions of food substances gives a fuller meaning to food courses than can be given without such a contributing study. This has been recognized in the organization of household chemistry courses, which always include some food chemistry and in many cases a study of other organic compounds.

Household chemistry. Household chemistry courses, while of various types, contain that material selected from the whole field of chemistry which has the closest relation to the household activities. Such a course may deal primarily with the chemistry of food materials, but in many courses it includes some elementary work with textiles and cleansing agents. Household chemistry courses are not as thoroughly standardized or conventionalized as the general chemistry course, but they can be roughly classified into three groups or types:

1. One of these types may be called, for want of a better name, "applied" chemistry. Such a course will cover a study of the characteristics of various foods and household materials, their identification by chemical methods, the effects produced by different chemical reactions in the use of these materials, and similar topics. Such a course will not include a study of the principles of chemistry, or in other words the theoretical aspects of chemistry, and as a result such problems as the molecular and atomic theory, valence, equations, etc., are not considered in these courses. A great

deal of the material given in a household chemistry course of this type is considered as a legitimate part of the food course itself by many home economics teachers.

2. A second type of course is one in which the first semester's work consists of carefully selected inorganic chemistry topics, followed in the second semester by the problems in organic chemistry which are especially related to the needs of the students of home economics. Such a course gives opportunity for the consideration of those principles of chemical relationships which will enable a student to go on with more advanced work in chemistry, and at the same time gives more practical applications than a general chemistry course.

3. The third type,¹ though having many features in common with type 2, illustrates a different organization in that no formal division is made between inorganic and organic chemistry, and illustrations of both types of compounds are included as each principle or topic is studied. This will bring many more practical illustrations into the beginning of the course, and should increase the possibility for correlating the chemistry and food courses. One of the chief difficulties with this type of work is that it needs a particularly skillful teacher, with thorough knowledge of food chemistry. It has a further advantage, however, of including the type of material which will be equally useful to boys or girls if the illustrations that are used are varied enough.

The value of a household chemistry course, presuming that it is intelligently and effectively taught, is in direct proportion to the degree in which it assists a girl to understand and solve the problems that she meets in her other courses and in her home, and the extent to which it can

¹Report of the Committee on Correlation of Chemistry and Home Economics in High Schools. *Journal of Home Economics*, March, 1917.

give, in addition, an understanding of chemistry. The type of course designated as type 1 has been criticized because it does not teach "chemistry." Might we not similarly criticize any subject matter which is organized around concrete situations or activities rather than around the principles of the subject? If a student is planning to do more advanced work in chemistry, there may be a definite loss in limiting her course to applications rather than giving her some basic chemical theory in her first course. The difficulty here is not in the type of course, but in the selection of this type for a student whose course should be organized on a long course basis. It is just as unprofitable to fail to give usable and illuminating material to the girl who can spend but a limited time on chemistry, as it is to fail to give a study of principles to a girl who wishes to do more advanced work.

There is one other issue in regard to the household chemistry course which should be considered, and that is its position in the curriculum. Should the household chemistry course be offered in the second year rather than the third year of the secondary school? If the object of such a course is to give students the basis for understanding the characteristics and reactions of food and household materials, the earlier such explanations can be given the more significant their work will be. On the other hand, if we are planning to teach chemical theory, the course will be more effective later, as the more theoretical work a household chemistry course contains, the more difficult it is to put it in the lower grades. This may be a decisive factor in deciding which type of household chemistry to use in a given situation.

The requirement of chemistry as a prerequisite to food preparation courses does not seem to be justified by the rather limited use of chemistry in these courses. A household chemistry course or a general chemistry course which includes a study of organic compounds is most valuable as

a contributing course, and as such it should be required wherever a comprehensive study of foods is undertaken in the secondary school. Though it is possible to teach food preparation and food selection without requiring a course in chemistry, there seems to be little justification for advanced food preparation or dietary courses in the senior high school unless they can be augmented by the more extended study of food materials given in a chemistry course which includes food chemistry.

Physics. The relationship of physics and home economics has never been so much emphasized as that of chemistry and home economics. A survey of a number of food text-books will show, furthermore, that the explanation of many of the physics problems involved in the preparation of foods is seldom undertaken in these texts; yet most of the courses in housewifery and cooking are dealing with physics problems. We teach our girls to bake, but we almost never explain fully the problems of heat transmission which are the basis of expert oven control. As was noted before, physics is usually offered as a fourth year subject. Under these circumstances we must either organize a household physics course of a type that can be given in earlier grades, or else incorporate essential explanations in home economics courses. While a quantitative study of physics problems is an advanced problem, short topical studies of the problems of heat, light, and mechanics encountered in the cooking laboratory can easily be made a part of food courses or of general science courses. It is not the failure to recognize this that has prevented the use of physics topics. The fundamental reason is that the incorporation of science material adds to the multitude of topics which must be included in food courses. If this material can be given in a separate course, the food teacher can emphasize applica-

tions of physical laws without spending time on general principles.

Household physics courses may vary from a general physics course merely through the increased use of illustrations from household equipment and appliances. More often, however, the emphasis on the different topics of the course is modified, less emphasis being given to electricity and to mathematical problems. One of the great weaknesses of household physics courses has been the centering of such work too exclusively around the home. After all, a girl as well as a boy is living in a community and under the sky, and she needs to be just as intelligent about natural phenomena and the control of the physical forces as about the more domestic evidences of physical laws that she encounters in her home. Furthermore, a broader interpretation of household physics makes such courses equally useful to boys and girls, for household problems are not exclusively an interest of girls.

A physics course which will coördinate most effectively with home economics courses should be so organized around concrete situations that it may be offered earlier in the high school than the fourth year, and it should cover so wide a range of topics that the student may see the application of similar principles in situations outside the home as well as within the home.

Biology. The biological sciences are closely related to the subject matter of home economics. Possibly because this material has not been so formally organized as physics and chemistry, possibly because of the very nature of the subject, it has been incorporated more fully into home economics. Nutrition of man, physiology of digestion, and bacterial life are so closely associated with dietaries, selection of food, preservation of food, etc., that they have become a part of food courses.

Whether the courses in physiology, botany, biology, and zoölogy offered in the secondary schools contribute material that is valuable to home economics students, depends on the character of the courses. Physiology which is mainly anatomy, botany, and zoölogy, that place most emphasis on the formal classification of plants and animals, offer little that will be of direct value to home economics courses. Some of the general or "civic" biology courses¹ that are organized around concrete topics contain material most significant for students in home economics classes. If such a course can be offered as a prerequisite to food selection, students will have some basic knowledge of nutrition, and the time in food courses can be spent in making application of these principles in the practical problems of food selection.

General Science. It is not necessary to state here the arguments for and against the use of general science courses. Such arguments can be found in any recent text on the teaching of science. We are chiefly concerned with the possible value of such a course to home economics. One of the advantages of a general science course is that it is usually offered in the ninth grade, and in some cases even in the seventh or the eighth grade. This makes it possible to require such a course as a prerequisite or parallel course to the beginning food work in the secondary school. Another value is that the organization around concrete topics which characterizes these courses is similar to the organization of this material as found in home economics courses. A third advantage is that it contains material from different sciences, and from the previous discussion it is evident that food and house courses require material from biology, physics, and chemistry.

General science courses show great variation in their

¹G. W. Hunter. "A Civic Biology," American Book Co. C. F. Hodge and J. Dawson. "Civic Biology," Ginn & Co.

content and in the organization of the course. The following quotation¹ illustrates this point:

"Twelve of the nineteen teachers reporting on the organization of courses in general science signify that these consist of brief elementary treatments of various sciences. The sciences so used and number of teachers reporting them are as follows:

Physics	12	Botany	8
Chemistry	12	Zoölogy	6
Physiography	8	Astronomy	5
Physiology	8	Hygiene	1

The remaining seven teachers signify that their courses consist of topics each of which may use materials from several sciences."

If the general science course can include some or all of the science topics which would otherwise have to be included in the home economics courses, it will be of the greatest value to this department. When close coöperation between the general science and the home economics courses is desired, the particular contribution that the general science course might make to the different food or house courses should be carefully outlined by the home economics teacher, and by conference with the science teacher it should be decided which of these topics could be successfully incorporated into the general science course, and which must be retained as home economics topics.

PROBLEMS

1. Compare at least three household chemistry texts. To which type do they belong? Does the material in these books contribute most to a course in cooking or to one in dietaries?
2. Compare the topics studied in a good general physics text-book and those found in a household physics. Arrange a year's work in physics that would offer the most effective combination of these two courses.
3. What are the main arguments against a general science

¹L. V. Koos. "Administration of Secondary School Units." Supplementary Educational Monographs, Vol. I, No. 3, page 70. Chicago: University of Chicago.

- course? Compare these with the points developed in Chapter I.
4. Explain the meaning of a "scientific method" as illustrated in the teaching of foods. Does such teaching require a prerequisite of chemistry?
 5. What type of science courses in the high school would you advise for students electing a home economics course requiring four units in home economics?
 6. Is nutritional physiology taught in the secondary school in your community? Under what circumstances would you include nutritional physiology topics in a home economics course?
 7. Outline a home project in the working out of which the science department and the home economics department could cooperate.
 8. In what grade is personal hygiene taught in your school system? Outline the home economics topics that would coordinate with the hygiene course which might be taught in the same grade.

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CHAPTER XIII

THE SOCIAL SCIENCES AND HOME ECONOMICS

OUTLINE OF THE CHAPTER

POSITION OF THE SOCIAL STUDIES IN THE CURRICULUM.

CORRELATION OF THE SOCIAL STUDIES AND HOME ECONOMICS.

COMMUNITY CIVICS.

ECONOMICS.

SOCIOLOGY.

HISTORY.

SUMMARY.

There has been much less close correlation between the courses in the social sciences and those in home economics than might be expected from the title of the subject. One of the reasons for this has been that the character of the courses in history, civics, and economics has offered little opportunity for such correlation. The gradual development of the newer types of civics courses and the introduction of industrial and economic history courses are signs of an increasing demand for consideration of the fundamental problems of social life in the secondary school. Lack of material with which to correlate should become decreasingly an excuse for neglecting the opportunity to coördinate these courses.

A second reason for failure to use material of the social sciences has been the tendency in home economics courses to over-emphasize that type of subject matter which coördinates easily with the natural sciences and art. An examination of almost any state or city course of study in

home economics, with a few notable exceptions, will show elaborately detailed outlines for the food and clothing courses and meager outlines, if any, on the family, family expenditures, purchasing, household labor problems, and other social and economic aspects. There has been some attempt at justification of this situation on the part of home economics teachers on the ground of the difficulty of this latter type of material for secondary school students, yet we are finding increasingly a consideration of many of these problems in our newer civics and social problems courses. The problem is more nearly one of decision as to the relative values of the two types of work, though undoubtedly the greater difficulty of making social and economic problems vital and significant to the students has been a deciding element with those teachers whose work is organized along traditional lines.

Position of Social Studies in the Curriculum. One of the factors that will affect the use of the materials of the social studies as it affected the use of natural science in home economics is the position of these courses in the curriculum. The results of a survey¹ made in 1916 showed that the two subjects, community civics and economics, which contain the material most valuable for home economics teaching, were almost universally twelfth grade subjects, though occasionally civics was offered in an earlier grade.

The following recommendations² from the Committee on Social Studies of the National Educational Association show the lines along which the most effective use of this material will probably develop:

¹L. V. Koos. "Administration of Secondary School Units." Supplementary Educational Monographs, Vol. 1, No. 3. Chicago: University of Chicago.

²"The Social Studies in Secondary Education." Bureau of Education Bulletin, 1916. No. 28, page 12.

*Suggested Plan for Social Studies***Junior cycle (years, 7 to 9)**

Geography.

European History.

American History.

Civics.

Senior cycle (years, 10 to 12)

European History.

American History.

Problems of Democracy—social, economic, and political.

The civics course recommended for the ninth grade includes a study of vocations and of community problems and institutions; the course in the last year deals in a more comprehensive way with the principles of social relationships. This plan would give an elementary study of the community in the first year of the high school on the 8-4 plan and in the last year of the junior high school on the 6-3-3 plan.

Correlation of the Social Studies and Home Economics. The material of the social sciences is more closely related to the problems of household management and the family than to those of other divisions of home economics, and since these topics are studied usually in the last years of the high school, it should be possible to work out a plan by which the community civics, home economics, and social problems courses all could contribute to the students' understanding of social and economic laws. In such a plan, the study of the social economic problems of the family undertaken in the home economics course must be comprehensive enough so that students can see the relation of these topics to their work in the related courses. This would mean, probably, that some discussion of general problems and principles must be included in the home economics course.

Science material that is worth while, whether from the natural or social sciences, cannot be taught incidentally; it must become an integral part of a course if it is to give students a method of thinking as well as knowledge of a few facts. In the study of related social science material

in home economics classes, investigations, assigned readings, and class discussions should be used.

Community Civics. The exact definition of community civics and the demarkation of its subject matter from that of economics and sociology is hard to establish. Some civics courses place greater emphasis on social organization and political administration, while many of those courses offered as twelfth grade subjects contain much material that requires a consideration of principles of economics or sociology. The following table shows the relative importance given to different topics by twenty-nine teachers. In most cases the course was offered in the twelfth grade as a half-year subject.

TABLE 2.¹

Number of teachers giving attention to certain aspects of community civics.

<i>Aspects</i>	<i>No. of teachers</i>
Community health	26
Public utilities	25
Immigration	25
Taxation	25
Pure Food	24
Public recreation	23
Civic beauty	23
Transportation	22
Charities	22
Correction	21
Juvenile Courts	20
Communication	20
Housing	19
Occupations	19
Child labor	18
Wealth	17
Savings Banks	17
Social Education	16
Urban and rural life	14
Life Insurance	12
Family income	12
Total number of responses	29

¹ Leonard Koos. "Administration of Secondary School Units." Supplementary Educational Monographs, Vol. 1, No. 3, page 110. Chicago: University of Chicago.

Several of these topics are rather generally accepted as part of the subject matter of home economics, notably pure food, housing, and family income. Similarity in topics, however, does not necessarily mean duplication of material when a topic is given as part of two different subjects, for the emphasis in each case should and probably would differ greatly. The greater knowledge of the details of the family income which a home economics student could take to her civics course should give her a keener appreciation and interest in studying the more general topics of income as related to minimum wage, taxation, investment of savings and insurance, etc.

Economics. Courses in economics are not offered in all high schools, and when given they are usually found in the twelfth grade because of the theoretical nature of this material. It is extremely difficult to make a study of the principles of economics so concrete that it can be given to secondary school boys and girls. As was noted before, the most effective elementary treatment of a theoretical subject is through the use of concrete topics which require the consideration of only such principles as have direct bearing upon the topic. Topics requiring explanation in economic terms may be grouped together in a coherent course¹ or they may be incorporated in other subjects, such as home economics, civics, and history. An illustration of this can be seen in the topics suggested under community civics, many of which are quite definitely economics topics. Economics as a separate subject is not recommended in the plan outlined on page 271. The following quotation² expresses the opinion of the Committee on Social Studies on this point:

¹ "Lessons in Community and National Life." Bureau of Education in coöperation with the U. S. Food Administration.

² "The Social Studies in Secondary Education." U. S. Bureau of Education Bulletin, 1916. No. 28, page 54.

"In actual life, whether as high school pupils or as adults, we face problems or conditions and not sciences. We use sciences, however, to interpret our problems and conditions. Furthermore, every problem or condition has many sides and may involve the use of various sciences. To illustrate the point we may take the cost of living, which is a vital problem from the standpoint of the individual and of society, and may readily have been forced upon the interest of the pupil through changes in mode of life, curtailment of allowances, sacrifice of customary pleasures, change in plans for education, etc. This problem involves, on the economic side, such fundamental matters as values, prices, wages, etc.; on the sociological side, such matters as standards of living, birth rate, etc.; on the political side, such matters as tariff legislation, control of trusts and the like, and the appropriate machinery of legislation, law enforcement, and judicial procedure."

The topic outlined in this quotation is an illustration of the type of material to be taught in the twelfth grade subject, "Problems of Democracy, social, economic, and political." With equal value and fitness this topic may be considered in the home economics courses, at least when students are not assured of finding it in their social science courses. While a study of the cost of living should be part of the education of both boys and girls, the fact that the standards of living of the family are so largely controlled by the homemaker makes it essential that a fundamental and comprehensive discussion of such topics should be started at least in home economics courses.

One of the weaknesses of the consideration of social economics problems in home economics courses has been the failure to bring in a discussion of the principles of the economic and social sciences that are involved. Since women control the expenditures of a large proportion of the family income, in order to make their demands intelligent, it seems almost essential that they should have some understanding of the economic laws that control the price of the purchases which they make. The following illustration shows in outline form some of the subtopics of eco-

nomics which might be considered under such general topics as purchasing and household labor:

Topics requiring material from economics

1. Purchasing.

- | | | |
|-----------------------------------|---|---|
| (a) Principles of consumption | { | Efficient consumption.
Personal versus economic demand.
Responsibility of consumer in controlling demand. |
| (b) Principles of production | { | Market organization { Wholesale and retail; the effect on prices, cost, etc.
Large scale production. |
| (c) Principles of value and price | { | Market price.
Monopoly versus competition.
Speculation.
Control of price. |

2. Household labor and time value.

- | | | |
|----------------------------------|---|--|
| (a) Principles of labor problems | { | Wages and maintenance of living standards.
Conditions of employment: payment of wages, working conditions, etc.
Immigration.
Scientific management. |
| (b) Principles of production | { | Division of labor: household labor versus industry.
Types of productive activities in home: service, production of concrete goods. |

Sociology. The study of social problems is steadily increasing in the secondary schools. The demand for a comprehensive study of society was not so great in the past

as for a study of the economic and political sciences. This was probably due to the more conscious and understood needs of business and political life. The consideration of social problems, however, has become an integral part of most community civic courses; some of the most effective study of the family is found, not as we might expect in home economics courses, but in civics courses.

The amount of time that should be spent in home economics courses on a study of the organization of society will depend upon how completely we can consider such topics as employment of women, expenditure for recreation, divorce, etc., without going back to other evidences of social organization or control. Unquestionably, we need to give our students a social point of view on the rights and responsibilities of the members of the family to each other and to society, if we are giving training in homemaking.

History. Though history should contribute much of interest and significance to every individual, it has far less close relationship to the practical problems of home economics than the other social studies. Industrial history gives the basis for an appreciation of labor problems, and in so far as a housekeeper is an employer of specialized and un-specialized labor, she will profit from an insight into the problems of industrial expansion and development.

Another connection in which material from history is used in various home economics courses is in the study of the houses and household materials of different periods and of different social groups. It is difficult to give these topics much vitality if isolated from a more complete study of human experience and progress. For example: a study of the social, economic, and political life of an age or of a nation, the activities, recreations, living conditions, degree of progress, etc., will give far more significance to a consideration of Greek, Roman, and early English housing and

furnishings than a mere enumeration of the characteristics of houses and furnishings in each period and their differences in type, construction, and use, such as is seen in many house decoration courses. When the history course includes not only a study of political life, but a topical study of the development of industry, the development of social institutions and the development of art expression, there will be more opportunity for making the home economics and history courses mutually helpful. The newer method of history teaching includes such topics in the organization of history courses.¹

Summary. The material of the social sciences has so vital a relation to home economics that we should use every means to give to our students experience in thinking along social economic lines. The individual voluntary food saving by the American people during the war which amounted to tons of food materials is an illustration of the tremendous possibilities of a social point of view, coupled with an intelligent demand. Housekeeping may be an unspecialized business, but the sooner home economics students think of it as a business regulated by economic laws, the sooner it will become an efficient business. If the home as an institution is to maintain its social efficiency, the homemaker must see her problems not as isolated personal problems and standards, but in their effect upon community standards.

PROBLEMS

1. Show how the topic Community Health might be studied in a home economics class and in a civics class without duplicating material.
2. Study the history courses in some secondary school and analyze the possibility of correlating Home Economics with these courses.

¹ "The Social Studies in Secondary Education." Bureau of Education, Bulletin No. 28, 1916.

3. How much time would you allow for consideration of economics topics in a study of purchasing problems?
4. Do you advise teaching all the social economics material in one home economics course, or would you include some of it under marketing and textiles in food and clothing courses?
5. What text-book would you use for the study of the Family?

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CHAPTER XIV

ART AND HOME ECONOMICS

OUTLINE OF THE CHAPTER

TYPES OF ART COURSES.

MODELING.

DRAWING.

COLOR STUDY AND PAINTING.

DESIGN.

SUMMARY.

A relation between the courses in art and those in home economics has always been recognized, and the attempts to correlate these subjects have been definite and numerous. Designs to be used in sewing and housing courses have been made in the design class, or the teacher of design may have gone into the sewing class in order to assist in making designs adapted to the conditions of the materials and the skill of the students. In most cases the home economics teacher has expected students to come to her classes with a general understanding and appreciation of good line, form, color, and composition on which she could base the special application of these elements in costume design and house decoration.

Types of Art Courses. Speaking generally, there are two types of art courses. The survey of art or art appreciation course that does not necessarily include practical work in the different mediums (modeling, drawing, painting, etc.) is a type for which there is a growing demand. Such a course will usually include the study of various forms of art expression; architecture, furniture, ceramics, fabrics, painting, sculpture, etc. The aim of this course

is to introduce the students to the best of each form of the fine and applied arts in order to give the basis for discrimination and judgment of what is intrinsically good in each form and to train judgment in selection. There is no attempt made to teach the students to paint pictures or to make designs, but to assist them in judging good pictures and good designs. How far this result can be secured without some concrete experience with the different mediums is still debatable to most art teachers. In the quotation from Snedden on page 52 the point of view that demands some experience in producing pictures, furniture, designs, etc., as a basis for appreciation is questioned. Experience in teaching these subjects would seem to point, on the contrary, to the fact that a deeper and fuller appreciation will follow some experience in production. This type of course, however, is usually offered in the secondary school following an elementary art course which always includes experience in drawing, painting, and designing.

The second type of art course is one that includes some experience in art expression. Such courses are generally named by the form of expression: painting, freehand drawing, water color, modeling, pottery, design, etc. The various art technics may be extremely valuable to many people who are not primarily artists. The ability to show an idea by a sketch is of great value in practically all constructive occupations; the ability to design has even more universal application if we think of the grouping of furniture, the arrangement of a mantel or of flowers, etc., as design problems. Painting is a mode of expression that is used far less. In discussing the selection of art courses that will contribute most to home economics, it is essential to decide upon the relative need of the homemaker for ability in each of these types of work, for we must look for specific contributions from art courses, just as we have looked for them from the natural and social sciences.

Modeling. Modeling with various plastic materials has been advocated as being of particular value to the home economics student as the basis of costume designing. The arguments advanced for the use of this form are numerous. It is suggested as the best method of securing a "feeling for line." This is a rather vague term which might be translated into one equally vague but with less technical wording, an appreciation of good line. One of the essentials for judging good line is intelligent and purposeful observation. Such observation can be trained in reproducing a modeled figure—noting the poise of the figure, the curve of the shoulders, the sweep of the garments. It can be trained also in studying the grouping of figures in a dramatic production, in observing the best angle for a hat, in noting the cut of a coat, in studying the outlines of trees, in observing the lines of furniture, and so on indefinitely.

While modeling may give a keener appreciation of sculpture and ceramics and other of the plastic arts and furnishes another mode for judging line, proportion, and symmetry, it is a medium of expression which is not used with any frequency by most people and it has no particular application in the home, for there is no particular use in any household activity for the specialized hand skill which is developed. "Costume modeling" with paper and fabrics requires quite different manipulation from that required for clay, and skill in such work can be secured as effectively without clay modeling. Whether the value of modeling in the secondary school is great enough to compensate for the expenditure of time necessary to secure the essential technique of this specialized form is rather more the problem of the art teacher than that of the home economics teacher, for such value is general rather than specific.

Drawing. As was noted before, the ability to express ideas through drawing is of great value in the constructive

occupations. In the activities of the homemaker such ability is used mainly in connection with clothing and house construction and decoration problems. Sketches are almost never used for clothing unless it is made at home or custom made, and with the rapid increase in the number of garments purchased ready made there is a decreasing need for such skill. As a tool in the teaching of clothing problems, however, some power to sketch ideas may be very useful. An extremely interesting illustration of this was seen in a millinery class. Each student was required to bring in a number of sketches each week of the interesting hats observed going to and from school. This problem gave excellent training in observation of the style and details of hats, and resulted in the acquisition of an astonishing degree of skill in sketching, considering the limited amount of time spent in class on this problem.

There is some question as to which types of drawing contribute most to ability to make practical sketches and working drawings. In all probability descriptive drawing that necessitates analysis of the form and characteristics of an object and the exact reproduction of its salient features contributes more than drawing that aims for decorative or artistic effects. The ability to make descriptive drawings is largely a question of learning how to represent by drawings each of the essential parts of an object; for example, in drawing hats the technic of drawing brims, crowns, feathers, bows, etc. Such a "vocabulary" of drawing for the objects used in home economics classes can be developed either in general art classes, or, if time is allowed, in home economics classes. If home economics teachers believe that the habit of making working drawings for all kinds of constructive work is valuable, they will see that some experience in making clothing sketches and drawings of house decoration problems is included in art courses that are required as prerequisite to their courses.

Color Study and Painting. Some experience in painting or at least painting with water color accompanies most courses in design and drawing. The technic of making color washes and of combining different pigments to produce a given color, the understanding of color theory, and the discrimination and analysis of colors are the problems that are developed. In far too many courses, the first of these receives the greatest attention, and the students are given little experience in the analysis and discrimination of color in their surroundings, though it is this knowledge of color that is most used by all persons, and one of the greatest contributions of the art course should be the development of a discriminating color sense.

While the use of painting is the most usual method of studying color, there are definite limitations to the exclusive use of this method, since it is impossible for inexperienced students with inexpensive pigments to reproduce more than a limited number of the color tones that they may need to work with. The use of the color wheel is a much more effective method of teaching analysis of color, for it is possible to see color mixtures in this form not only qualitatively, but quantitatively as well. Appreciation of color should be an essential part of the training of the family purchaser, since she is mainly responsible for the purchase of the household furnishings and the clothing of the family, in the selection of which color discrimination is needed.

Design. Art courses that include some training in the selection of designs and some experience with practical designing problems that necessitate the arrangement or grouping of objects, such as arranging articles on a desk or a mantel, arranging flowers, etc., will contribute more directly to home economics courses than those that are concerned primarily with the making of designs. The making of designs rather than the study and selection of examples

of good design has been the dominating characteristic of most design courses. The following statement¹ recognizes the need for greater emphasis on the latter type of work:

“With the advancing maturity of pupils increased attention should be paid to choosing the best things from available sources, which usually present both good and bad examples. Even though one may have designed a good vase or wallpaper, certain different kinds of mental behavior are called forth when instead of beginning with raw materials he must choose from a multitude of finished products. In the first case there is a slow working towards the realization of an idea with materials which are under one’s control. In the second there is more or less rapid choice among different ideas as expressed by others, and definite comparison of these with one’s own ideals. Original designing is an excellent experience, and should certainly form part of the training of every pupil, but it is only one of the factors which go to form good taste. Thoughtful selection from available material and familiarity with excellent examples are also effective influences. In actual life, for every designer there are a thousand people who will only select design.”

In one sense every one is continually making designs. When you select a frame for a picture and decide about the width of a mat you are making a design. The spacing of writing in a letter so that it has effective margins is also designing. Experience in such “making” of design is a part of design selection and arrangement. In the more restricted use of the term as seen in art courses, making a design refers to the making of original structural or decorative designs to be used or which might be used in various ways: border designs to be used in rugs or as stencils, etc.; designs for monograms; embroidery designs; plate designs; conventionalized flower designs to be used in a given space, such as a circle or oblong, etc.

The designs made in art courses are usually related to the constructive work of the different grades: weaving, woodwork, paper work, pottery, sewing, etc. In a great

¹Walter Sargent. “Fine and Industrial Art in Elementary Schools,” page 29. Ginn & Co.

many schools the correlation between home economics and art courses is found almost exclusively in the making of designs for needle-work. This has resulted in greatly over-emphasizing the importance of this work in home economics courses. Certain types of needle-work, such as crocheting, receive their sole justification as secondary school topics in the opportunity which they offer for the application of design. Although the making of a design for decorating a collar may be of immediate value in a sewing class, it does not provide the type of experience that contributes most to costume design and house decoration courses.

Summary. The development of the appreciation of the beautiful is of slow growth. As expressed by Bailey:¹

“Taste develops gradually through the making of choices with reference to some ideal. Skill develops slowly through doing things with reference to some standard of excellence. In art education, therefore, every opportunity should be given for those conditions and activities through which taste and skill may mature.”

In this sense any art course which contributes to discrimination and the development of good taste is of vital importance to home economics courses. The more fully such courses deal with the materials and the types of art expression that are used in the activities of the home, the more effective agents they will be in training our boys and girls to make their homes an expression of a discriminating and authoritative taste.

PROBLEMS

1. Compare the relative emphasis on the making of decorative design and the study of applied design in the art courses of your city. In what grades would you emphasize the latter type?
2. What art courses would you require for students specializing in home economics? What should be the character

¹Henry Turner Bailey. “Art Education,” page 1. Riverside Educational Monographs.

- of these courses? Would you offer a special household art course? Should this be taught by the art teacher or the home economics teacher?
3. Outline the topics that you would include in a survey of art course which is offered with the aim of increasing the appreciation of good design and color in daily life. In which grade would you offer this course? Would you make a general requirement of this course for all boys and girls? Would you require any laboratory work in this course?
 4. Discuss the possible use of home and school projects in art courses. Outline a home project that would not require skill in representation.
 5. Outline several drawing problems that might be included in a general art course and that would be of particular value to home economics students.

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CHAPTER XV

COURSES IN THE ELEMENTARY AND SECONDARY SCHOOLS

OUTLINE OF THE CHAPTER

ELEMENTARY SCHOOL COURSES

HOME ECONOMICS IN GRADES ONE TO SIX.

HOME ECONOMICS IN GRADES SEVEN AND EIGHT.

Food and clothing courses.

Household management courses.

The general home economics course.

HOME ECONOMICS IN THE JUNIOR HIGH SCHOOL.

TIME ALLOWANCE.

Number of lessons in elementary school courses.

Time allowed for outside preparation.

SECONDARY SCHOOL COURSES

TIME ALLOWANCE AND CREDIT VALUE OF COURSES.

HOME ECONOMICS IN DIFFERENT CURRICULUMS.

As an elective subject.

Required work in home economics.

STANDARDS IN THE SECONDARY SCHOOL.

THE PLANNING OF HOME ECONOMICS COURSES

INTERESTS OF CHILDREN IN THE PLANNING OF COURSES.

ADMINISTRATIVE PROBLEMS IN THE ELEMENTARY SCHOOL.

HOW TO PLAN A COURSE OF STUDY.

There are many elements entering into the planning of courses for a given school, and one of the most important of these is the length of the school life of students. Courses planned on the basis of twelve years' attendance fail to meet the needs of the students who leave at the end of the seventh, eighth, ninth, or tenth grades. The reorganiza-

tion of many school systems into three schools or units of instruction, 6 years elementary school, 3 years junior high school, and 3 years senior high school, is a recognition of the demonstrated need of a more vital treatment of school work for children from twelve to fourteen years than is found in the traditional 8-4 plan with the break in the subject matter and methods of teaching at the end of the eighth grade.

This reorganization of the school system has emphasized the unity in purpose of school work in the grades one to six and the need of looking at the work of the grades seven to nine as a complete unit for the many students who leave school at the end of the ninth grade. This latter point has been neglected in many secondary schools where the ninth grade courses have been treated as the beginning of a four-year secondary school cycle. A large number of the school systems organized on the 8-4 plan attempt to keep students through the tenth grade by offering two-year "vocational" courses. Home economics is one of the vocational subjects included in such plans.

ELEMENTARY SCHOOL COURSES

Home Economics in Grades One to Six. There are two rather sharply contrasted theories or policies in regard to the introduction of home economics material into the grades one to six. The first advocates the organization of all the work of the practical or manual and fine arts of these grades into a comprehensive course taken by both boys and girls. Such a course would include all types of constructive and occupational work: woodwork, paper and cardboard construction, weaving, elementary needle-work, cooking, gardening, house care, and other fundamental constructive or social activities. The second is based on the need of giving all girls some fundamental training for their

future vocation of homemaking. Since many children leave school by the end of the sixth grade, this point of view would necessitate the beginnings of specialized work for girls in the fifth and sixth grades at least. This plan is generally advocated by those who see the vital need of the children in homes of a low economic level for receiving some training in the activities in which they are participating in their own homes.

Although the needs and opportunities of the particular school should and do influence the character of the work in home economics included in grades one to six, there is need for a conscious decision in planning home economics courses as to whether the material in these grades should be that which is of value to all children, both boys and girls, or whether it should have relation only to the household activities usually carried by the girls.

The study of constructive and social activities must become an integral part of the general work of each grade if it is to accomplish its purposes, and each activity should be studied when it will contribute most: cooking and gardening as an introduction to science; needle-work as an application of design; weaving as an introduction to the production and manufacture of textile fibers, etc. There are many difficulties in carrying out this plan, as it needs the complete coöperation of the grade teacher and departmental teachers. A few schools have demonstrated that the organization of a general industrial arts course is practicable,¹ but it has not been adopted in most public school systems.

In the majority of schools all work in foods and needle-work is departmental. That such work has only been offered for girls is the result of the narrow interpretation

¹ "The Speyer School Curriculum." Bureau of Publications, Teachers College, New York.

of its character and purpose. The preparation of common food materials and food selection, the manufacture and selection of textiles and the application of design in needle-work are as significant to the boys as to the girls of the fourth, fifth, and sixth grades, both from the standpoint of interest and social value. Even when no attempt is made to incorporate home economics material into a general fine and industrial arts course, it seems most desirable to offer departmental work in home economics in the fifth and sixth grades for both boys and girls.

It is evident that such courses must consider the type of material that will enter into the experience of boys as well as girls. The scientific problems encountered in cooking, the study of food selection and the preparation of common food materials are all interests of boys that are stimulated by scout activities and popular magazine articles. There has been some criticism of such work as being too difficult for these early grades. Fortunately, it has been already demonstrated¹ that material of this type can be given profitably to children in the fifth and sixth grades. There is much difference of opinion as to the type of needle-work and sewing that should be offered for boys in these grades. Decorative needle-work that can be used in the application of design and that requires rather coarse stitches is almost universally approved. Some schools give training to both boys and girls in such simple problems in repair as sewing on buttons and mending stockings, but when actual sewing is undertaken it is universally offered for girls alone.

The desirability of requiring before the seventh or eighth grade, work that necessitates such fine muscular coördination as hand sewing has been questioned by many grade

¹ R. Biery. "Teaching Food Values in the Elementary Schools." *Journal of Home Economics*, August, 1918.

teachers and home economics teachers. In many schools, however, such work is found in the fourth, fifth, and sixth grades and almost universally for girls alone. Though the use of machine work might obviate this difficulty, lack of equipment makes this plan impossible in most schools. The most desirable plan would seem to be to defer "sewing" until the seventh grade, using in the lower grades only those needle-work problems that require large, easily made stitches, such as the cross stitch, darning stitch, etc.

The following table¹ shows the extent to which sewing and cooking courses have been included in grades one to six of 142 cities. In practically all cases these represent specialized courses for girls.

TABLE 3

Sewing

Over 50% of the cities offered sewing in grades 6, 7, 8, 9, 10.
26 to 50% of the cities offered sewing in grades 5, 11, 12.
11 to 25% of the cities offered sewing in grade 4.

Cooking

Over 50% of the cities offered cooking in grades 8, 9.
26 to 50% of the cities offered cooking in grades 7, 10, 11, 12.
11 to 25% of the cities offered cooking in grade 6.

Home Economics in Grades Seven and Eight. *Food and clothing courses.* With the exception of a few schools where cooking is offered to boys through the eighth grade, home economics instruction in the seventh and eighth grades is planned primarily for girls. Although the work in cooking and sewing in these grades may be of the most practical type, these courses should be organized from the standpoint of giving knowledge and experience with food and clothing

¹"Some Facts Concerning Manual Arts and Homemaking Subjects in 156 Cities." United States Bureau of Education, Bulletin No. 32, 1916.

problems through the activities of cooking and sewing instead of making ability to cook and sew the main objectives.

Household management courses. The subject matter of household management is far less often offered in a definite unit of instruction in the elementary schools than is the material of clothing and foods. In many schools housekeeping or housewifery lessons are brought into the food course wherever the instructor thinks that such problems can be considered advantageously. Two or three lessons on household accounts, a few lessons on laundry work, household sanitation, care of children and home nursing may also be given in food courses. In the elementary school the study of household management problems has received little emphasis in the past, but there is evidence of a growing interest in the development of household management topics adapted to these grades.

The type of work in household management which is found most usually here is that in which all the topics relating to the home and its furnishing and care are grouped into short units of work centering about the furnishing and care of the individual rooms. In such courses the dining room and kitchen may be the subject of the six to ten lessons of the year's work given to household management. This will be followed by a study of the bedroom, bathroom, and living room the following year. Such a plan furnishes the basis for an elementary study of the housewifery and furnishing problems of the home; it does not attempt to include a study of the financial problems. This work would be described more accurately as a study of house and house care topics.

The general home economics course. When giving girls specialized courses in cooking, sewing, and housewifery, a few household activities are studied as isolated problems, and no attempt is made to show their inter-relation in family

life. It is realization of this that has led to the organization of home economics courses in which the home and its activities are studied as a whole. Various methods have been used of grouping the subject matter to be taught in these courses around concrete topics which will be of interest to children. The following plans have been used in different schools: (1) classroom study of the different household duties that are actually being carried out by the children in their own homes; (2) the organization of class work about the different activities of the home in a well-planned weekly schedule; (3) a study of each type of room in the home and the activities carried on within it.

It is evident that in the short time given to home economics in the elementary school, any attempts to make a study of all the varied household activities will result in the acquisition of some information in regard to household materials and activities, and in the creation of the right attitude of mind toward and increasing interest in household problems, rather than in the acquisition of skill or power in productive activities. The latter educational objective can be secured only through a more intensive study of cooking and sewing than is possible under this plan.

Home Economics in the Junior High School. The organization of the junior high school has not as greatly affected the content and methods of home economics courses as it has other subjects, because this work is always taught by departmental teachers. The character of home economics work in grades seven and eight of a junior high school may not be changed materially from that offered in an elementary school of eight grades. The main difference is that in the junior high school more time is allowed usually for this subject, which makes it possible to give a more comprehensive course.

The type of work given in the ninth grade will depend

upon whether it is offered as vocational training or for general training. The opportunities for work in the vocations growing out of home economics activities vary so greatly in different localities that in most cases the vocational work of the junior high school consists of training in specific homemaking activities, usually cooking or sewing. If the work of the seventh and eighth grades has included the study of different household activities, an opportunity should be given in the ninth grade for intensive specialization in a household activity in which the girl desires greater understanding and more skill.

When the work of the ninth grade is offered as a continuation of the general training given in the seventh and eighth grades, for girls who are continuing in the senior high school or for those that are planning to enter some other vocation, the most effective course is the general course that consists of a study of home problems.

Time Allowance. One of the serious handicaps of home economics teaching in the elementary school has been the common practice of giving one lesson in cooking and one in sewing each week. A subject for which a class meets but once a week assumes the position of an accessory subject. The length of time between lessons is so great that it is difficult to keep any continuity of subject matter, and a disproportionate amount of time must be spent to secure recall of the points developed in the last lesson. Two lessons a week would seem to be the minimum allowance for effective work, and three lessons is desirable.

Home economics studies that are expected to become a significant part of school work must be given the same emphasis and allowed the same number of meetings each week as the other subjects of the curriculum. One of the difficulties encountered here has been that though home economics has usually been given the same number of periods

of instruction accorded to other subjects, four single periods, the requirement of double periods for laboratory work has resulted in decreasing the number of meetings per week. The desirability of using single periods for discussions was discussed in Chapter II.

Number of lessons in elementary school courses. Since home economics studies are usually allowed two double periods a week, a year's work in many schools will consist of seventy-two to eighty lessons, depending upon the length of the school year. This will mean that if the time allotted to home economics in the seventh and eighth grades is equally divided between sewing and cooking, each of these courses will consist of seventy-two to eighty lessons. The table on page 296 gives the time allowance advised or prescribed for courses from various sources. The courses of study outlined for the different states probably reflect the most usual time allowance found in the schools of the state.

Time allowed for outside preparation. In discussing the extent of home economics instruction in the different schools, it is not enough merely to note the grades in which such work is given and the number of lessons; the actual amount of time allowed for class work and study in these courses is equally significant. Home economics courses in many school systems are classed as "unprepared courses" or courses in which the entire effort of the student is to be carried out in the time allowed by the school. There is a steadily growing tendency towards changing this practice which has given home economics the position of an accessory subject. In many schools "home work" has taken the form of requiring some definite tasks or concrete problems, which are to be carried out in the girl's home with the idea of giving her more extensive experience and greater technical skill in performing certain activities. Such work has been variously called home projects, home problems, and

TABLE 4

	<i>Grades in which work is offered.</i>	<i>Time allowance.</i>	<i>Estimated no. of lessons in the course of study.</i>
Program advised in Home Economics Circular No. 4. U. S. Bureau of Ed., April, 1918.	Food—5, 6, 7, 8 Clothing—5, 6, 7, 8 H. management—7, 8 Shelter—7, 8 Housewifery—5	5th and 6th grades: two, 90 min. periods per week. 7th and 8th grades: two, 180 min. periods per week.	Foods—144-180 Clothing—144-180 H. management—36-72 Shelter—36-72
Studies in Home Economics. Grades 7 to 12. <i>Teachers College Record</i> , March, May, Sept., 1918. ¹	Foods—7, 8 Clothing—7, 8 Housewifery—8 H. management—8 Shelter—8	7th and 8th grades: two, 80-120 min. periods per week; one or two, 40-60 min. periods per week.	Foods—90 Clothing—90 H. management and Shelter—36-72
State Course of Study for Massachusetts. Bulletin of the Board of Education, 1916, No. 29.	Foods—7, 8 Clothing—7, 8 H. management—7, 8 Nursing—8	7th and 8th grades: 180 min. per week. Clothing: 32 weeks Food: 34 weeks H. man.: 7 weeks Nursing: 3 weeks	Foods—68 Clothing—64 H. management—14 Nursing—6
State Course of Study for Elementary and Secondary Schools of Indiana, Sept., 1917.	Foods—7, 8 Clothing—7, 8 H. management— incidental.	7th and 8th grades: 1 double period per week in foods and the same in clothing.	Foods—72 Clothing—72

¹ Note. This work is to be preceded by a general industrial arts course including work in food, clothing, and housewifery, and extending through grades one to six.

school credit for home work. In many high school courses the use of text-books has brought about a more formal type of outside preparation similar to that found in other subjects, such as references, text-book study, and the preparation of papers and reports. The type of outside preparation which should accompany well-planned home projects, including readings, observations and reports, experiments, etc., is probably the most effective form of outside preparation.

The actual amount of time given to outside preparation is extremely difficult to estimate. Secondary school courses in home economics covering a specific unit of work will probably be given the same amount of outside work that is given in the same schools for a similar unit in other courses. There is far less uniformity in elementary school courses where no preparation is the more usual practice. The course of study for the Commonwealth of Massachusetts issued in 1916 recommends¹ the following time allowance:

Grades seven and eight

In school—180 minutes per week

Home work—60 minutes or more

Grades nine and ten

In school—240 minutes per week (project)

40 minutes per week (recitation)

Home work—80 minutes or more (assigned project)

40 minutes or more (study)

This would seem to be the minimum time allowance for effective work in a subject which must provide by home work for an application of principles in terms of actual use and for the extended practice which is essential to the acquisition of skill.

¹“Household Art.” Board of Education, Bulletin No. 29, 1916. Commonwealth of Massachusetts, page 4.

SECONDARY SCHOOL COURSES

Time Allowance and Credit Value of Courses. In most school systems, home economics courses are given credit towards graduation from high school, but the exact requirements for such credit are rather vague. The subject matter and activities of home economics instruction have seemed valuable to school men, and they have offered as an elective or as a required subject a limited amount of work which can count toward the "credits" required for graduation. The acceptance of home economics courses for college entrance has introduced another standardizing measurement of school work, the unit.¹ The unit has been defined as representing "a year's study in any subject in a secondary school constituting approximately a quarter of a full year's work." Academic subjects meet for a single period daily and laboratory subjects meet daily, with double periods allowed for laboratory exercises. Such a definition of a unit is quantitative, but the similar credit given to all subjects implies that the amount and quality of work required by the different subjects should be identical.

The requirement of double periods for laboratory work is a recognition of the increased time required for the manipulation of material. Presumably the amount of mental activity in such a lesson should be the equivalent of that required by a recitation period. As interpreted by many home economics teachers, the double period not only gives the longer time necessary to carry through a practical problem, but it takes so much of the student's time that it fulfills any requirement of outside work. As a result of this we find many home economics courses that are given ten periods a week of class time which are nevertheless snap

¹Note. This use of the term unit should not be confused with the "unit courses," which is the name given to the topical courses used for extension and continuation work.

courses, requiring a limited amount of mental effort during class time and practically no outside preparation. Any subject requiring as an essential element of the course the development of hand skill is in a peculiar and difficult situation when it must be measured in terms of academic value. A technical problem in sewing may offer as definite problem-solving situations as are found in a mathematical problem, but the carrying out of each minor problem in mathematics takes but a moment, while the sewing problem may take several minutes or even a whole period.

The reduction of the number of laboratory periods, or more accurately speaking the increase in the number of discussion periods given in home economics courses, and the greater emphasis given to the problems of the home rather than to the technics of home activities, would seem to be the logical plan of courses offered as fulfillment of college entrance requirements. By this is not meant the reduction of courses in home economics into impractical "theoretical" courses, but the elimination from them of all exercises and activities for which it is not possible to demonstrate: first, problems that require sustained effort in class work, and, second, the need for some investigation or study outside of class. The use of two double periods and two or three single periods a week is found in many home economics courses; this is the same time allowance accorded to other laboratory subjects, such as chemistry, physics, general science, etc.

The vocational needs of many students have created a demand for homemaking courses that will include not only the quality of work required by the more general courses suggested above, but in addition to this, some skill in the different household technics. Such courses will undoubtedly require more time in school than will be given to other subjects for the same academic credit, and should include home projects and problems for training in technic.

Home Economics in Different Curriculums. In most communities the work of the secondary school is so arranged that the students may elect a course or curriculum planned on a two or four-year basis that will offer them the type of training suited to their particular needs. Some of these courses are planned to give preparation for college work; others, to give the more general training needed by the boy and girl who will complete their formal education with the high school work; while still others are based on preparing students for a definite vocation. These courses are usually called by names that emphasize their essential characteristics: Scientific, Latin, Classical, College Preparatory, English, General, Household Arts, Practical Arts, Homemaking, Commercial, Agricultural, etc. Students may not only elect a definite course, but a certain amount of election of subjects within each course is possible. In this way even greater adaptation to the needs of the student is secured.

Home economics may be offered as an elective subject in many of these courses or as a required subject in those that emphasize the study of home problems or the training of the homemaker.

The requirement for all girls in the secondary schools of one or more units of home economics has been advocated by some educators. Most of the arguments for such a requirement have been based on the social value of such training or on the vocational needs of the homemaker. While there is little evidence that such a requirement will become general within a short time, there is need of a clear definition of the type of course in home economics that should be required, and of decision as to whether it should be required in excess of courses required for boys or substituted for a required course in social science (history) or natural science.

As an elective subject. Home economics subjects may be offered as an accredited elective in the more general curriculums, such as the English and General courses, and as an accredited or a supplementary elective in courses that are primarily college preparatory. One of the problems connected with offering home economics as an elective in these courses is that it is seldom possible to relate it in any way to contributing courses in art and the natural and social sciences. Because of this *any home economics course that is offered as an isolated elective must incorporate as its subject matter all of the related science and art topics that are essential to the understanding of the subject.* Failure to recognize this point has been the greatest weakness of elective home economics courses,

When home economics is offered as an elective in a course, the character of the material may be of a general or non-vocational type, or it may be such as would contribute to special homemaking activities, ability to sew, ability to cook, etc. In the first case the object of the elective would be to contribute to the students' general social understanding or appreciation, while in the second case it would be offered as a response to the girls' interests or home needs. The practical value and interest of learning to make clothing and prepare food has dominated the organization of elective courses in most communities. This is one of the cases when the needs of the girls have been interpreted too narrowly. The use of a general home economics course rather than a food and clothing course is much to be desired when only one unit of home economics will be elected.

Required work in home economics. Many high schools offer two and four-year curriculums in which home economics is the major subject. These are usually designated as Home Economics, Household Arts, Practical Arts or Homemaking Courses. While the special characteristics

of these courses vary in different places, they have certain features in common: (1) required work in home economics; (2) the universal requirement of some work in English, art, natural science, and history or civics; (3) the very general requirement of some mathematics; (4) an opportunity for election of two or more units in a language or more extended work in the required subjects.

The exact determination of the number of units of each subject required in a specific course will depend upon several conditions: the particular needs of the community and the group; whether an attempt is made to qualify the graduates of the course for college entrance; and whether such a course is conforming to the requirements of the Federal Board for Vocational Education. In general terms the four-year Home Economics or Homemaking course makes the following requirements: English, three to four units; art, one-half to two units; science, two to three units; history or civics, one unit; home economics, four or more units. Under the Smith-Hughes Act vocational homemaking courses must be given one-half of the six-hour school day, which estimated on the basis of units means four to six units of home economics instruction, depending upon the division of time between practical, related, and non-vocational subjects which may be elected by the different schools.

The following outline shows the type of material in different secondary school home economics courses:

Content of courses of different lengths

i. One-half unit courses—90 lessons.

- a.* Short general home economics course coördinating with a half-unit course in community civics.
- b.* The study of a single division—food or clothing, with emphasis on selection.

2. One unit courses—180 lessons.
 - a. General home economics course: social economic aspects.
 - b. General home economics course: science aspect.
 - c. A half-unit of foods and a half-unit of clothing.
 - d. One unit of foods or clothing—preparation and selection.
3. Two unit courses—360 lessons.
 - a. One unit general course (*2a* or *2b*) and one-half unit foods and one-half unit clothing.
 - b. One unit general course and one unit foods or clothing.
 - c. One half-unit each foods, clothing, housing, household management and family health.
 - d. One unit foods and one unit clothing (least effective plan).
4. Three or four unit courses.
 - a. One unit foods (preparation and selection).
One-half unit nutrition, hygiene, and sanitation.
One-half unit household management.
One unit clothing (preparation and selection).
One-half unit costume design.
One-half unit house selection and decoration.
 - b. Any combination of courses in *4a* and applied science and art.
 - c. A group of courses that allow an intensive study of a single division of home economics—foods or clothing.

Standards in the Secondary School. The need for establishing standards in secondary school courses in home economics is very great. In far too many school systems home economics courses have been the last resort of poor students. The practice of allowing students to enter clothing and food classes at any time during the year is not uncommon. Another practice which is of serious detriment to effective work allows students to register in the same class for one-hour or two-hour periods, depending upon the rest of their schedules. The possibility of electing a course in home economics during any school year, which is found in a large proportion of schools, results in mixed classes of

students from the ninth to the twelfth grades, with the natural result of grading the class on a ninth or tenth grade level of achievement. Another situation, found in some schools, is two classes, a beginning and an advanced class, scheduled for the same teacher at the same hour. It is easily seen that the quality of work that will be done under these conditions makes so little demand upon the students that the standards of the department will fall.

The status of home economics in the secondary school is changing so rapidly under the stimulus of Federal aid for vocational education that many of the practices mentioned above are rapidly disappearing with the prescribed conditions of time allowance, equipment, and supervision which are made as requirements in qualifying for Federal funds. More extensive standardizing of courses will result from the adoption of course outlines and similar aids provided by the Federal Board for Vocational Education.

How far the gradually evolving standards for vocational homemaking courses will affect the standards in non-vocational home economics courses will depend upon the distinction that is seen between the aims and methods of these two types of work.

THE PLANNING OF HOME ECONOMICS COURSES

Interests of Children in the Planning of Courses. The interest of children is a significant element in the selection of the type of subject matter to be given in the different grades. We are apt to think that all girls should be naturally interested in food and clothing without attempting to analyze the basis of their possible interest, though many teachers have observed a difference in the quality of interest shown in food and clothing courses in the different grades.

In the early grades children enjoy cooking and hand-work because they are interested in the activities themselves. They will repeat a process over and over again without apparent loss of interest, and are quite satisfied even when the resulting product is poor. Interest in the activity is gradually displaced by interest in the results of the activity. This interest in the thing produced has dominated many of our cooking and sewing courses; the cooking class that groans when a theoretical lesson is planned is not unique. The emphasis given to lessons on candy, cake, pie, and ice cream has no relation to the relative value of these foods in the daily diet, but to the desire of the class to make something good to eat. The interest in turning out a good product, of making something which comes up to or approximates a high standard, is a valuable quality to develop. The desire for good workmanship and the satisfaction resulting from it should accompany all productive activities. It is, however, more often the result of successful experience and a certain degree of skill rather than a motive or interest for gaining such skill.

A sense of need for a definite article, such as a piece of clothing, or of power to do certain things, such as preparing the meals for the family, are motives or interests which can be used most valuably in home economics courses. They are interests which are related to the personal activities of the girl outside of school. It is the type of interest which we are trying to cultivate in the use of home projects or problems. How universally such interests and such needs are common to all girls is an interesting question. The experience of most teachers has been that the desire to learn how to do things varies in degree with the standards of living found in different homes and with the extent to which home activities or more personal outside activities dominate the thoughts of the girl outside of class work.

The value of broader social interests than the personal needs of the girl herself has been seen in the increased vitality and motive given to home economics courses through the participation of classes in the preparation of food for special occasions, in food conservation projects during the war, and in Red Cross sewing and making of refugee garments. Even budget making has been vitalized by its relation to the necessary savings for Thrift Stamps and Liberty Loans.

A purely intellectual interest in the scientific principles underlying food problems, in the principles of art illustrated in costume design, or in any of the social or economic problems of the home, is just as possible in home economics courses as a similar interest in any other subject in the school. In dealing with a concrete subject, there is always danger that in the interest and pleasure of making things too little emphasis may be placed on developing interest in thinking out the reasons for doing things in a certain way or in looking for the relationships of the immediate problem to the students' experience in other lines, yet such an interest is the basis for a "scientific" study of home problems.

A course of study should be so planned that the interests of the students will broaden as they advance in their study of home economics problems. By careful selection of subject matter and methods of teaching, the social and intellectual interests of students can be stimulated and developed.

Administrative Problems in the Elementary School.

The planning of a course of study in home economics for a definite school or group of schools generally must take into consideration several administrative problems which will seriously affect the content of these courses and the attainment of the children. One of these is the common practice of having all the home economics topics taught by the grade teacher rather than by a special teacher in the

first five or six grades, and in many rural elementary schools, in all grades. While such a plan should lead to closer coördination between the special topics and the other work of the children, it requires a skillful teacher and much suggestive supervision by a specialist in these lines to make this newer subject, with its special technics and widely related subject matter, an integral part of the grade work. Courses planned for such conditions should be organized around group interests and projects based on class needs, and no attempt should be made to give a specialized course in cooking and sewing.

A practice often found in urban school systems is that of having a special cooking teacher and sewing teacher, each teaching her own specialty in a number of schools. This system not only makes it difficult to organize a general home economics course for the elementary schools, but it also tends to isolate the departmental work from other school activities, since the time and interest of the teacher must be divided between several schools.

In order to reduce the number of students in industrial arts courses, some method of dividing the regular class is generally used: the usual basis for the division is on the universally accepted idea of the difference in interests of girls and boys. Differentiation in courses for boys and girls is found as early as the fifth grade in some schools. This results in the elimination of any work in foods and textiles for the boys in many schools. The experience of teachers who have taught both boys and girls in courses in foods and in textile selection has been that the interest of the boys has been fully as great as that of the girls.

How to Plan a Course of Study. A course of study is the teacher's working plan; and, as in the making of any working plan, a course must be made to fit the particular conditions. It must be built primarily on clearly defined



aims which have due regard to the possible achievements of the group; it must be based on a careful study of the school, its conditions and its educational ideals, and of the opportunities for coöperation between different departments; it must show a selection and organization of subject matter which will meet the needs of the particular group of children. A course of study should not be static, used year after year with no regard to changing conditions, nor should it be so loosely and weakly built that all continuity is lost in the attempt to respond to a multiplicity of social demands.

Home economics courses for the different grades, or for separate divisions of the subject, such as food or clothing courses, should be planned not only to give the most effective work within the unit of subject matter, but to serve as part of a comprehensive plan for the work of all the grades. This larger plan should be made with due regard to the length of the school life of the students, as this is a significant factor in the decision as to the type of work to be given in different grades.

The following outline shows in more detail the type of problems which should be considered in the planning of courses:

- A. Study of the school conditions and how they may be modified.
 1. Amount of time allowed for the home economics course.
 - a. Grades in which home economics is offered.
 - b. Length of periods, number of meetings per week, etc.
 2. How home economics studies are related to the curriculum.
 - a. Is home economics an integral part of the work of the grade or a supplementary aspect?
 - b. Identification with work of other departments or opportunities for correlation.
 - (1) General industrial arts course in grades one to six.
 - (2) Home economics as contributing to the science, history, or art departments in the grades.
 - c. Conditions such as college entrance requirements or requirements of the Federal Board for Vocational Education which will affect the curriculum in which home economics is the major subject.

3. The best position for home economics studies in the grades in relation to the school life of the group.
 - a. Where should specialized work for girls begin?
 - b. How much work should be given to boys?
 - c. Influence of junior high school organization.
- B. Study of home conditions of the group.
 1. Activities of the children in the home and extent to which school training should supplement home training.
 2. Standards of value of the group in clothes, food, furniture, etc., and in standards of service or other household activities.
 3. How to stimulate coöperation of the home with school work.
 4. Group customs to be considered in planning courses.
 5. Probable vocational activities of the group and the influences on the type of training in home economics.
- C. Organization of the course.
 1. Methods of organization of subject matter best suited to stage of development of the group and the length of the course—around principles, concrete topics, or activities.
 2. Extent of use of home and school projects.
- D. Selection of subject matter and methods.
 1. Influence of aims and selection of specific objectives for the course or for each division of the course.
 - a. Educational objectives.
 - (1) Information.
 - (2) Acquisition of habits.
 - (3) Ability to discover and solve problems.
 - (4) Ability to acquire abstract and general meanings.
 - b. Social objectives.
 - (1) Interest in household problems.
 - (2) Efficient use of the necessities of living—clothes, food, etc.
 - (3) Increase in the productive power of the class.
 - (4) Increase in the appreciation of values.
 - (5) Acquisition of socially useful habits.
 2. Probable achievements of the class in each of the objectives of the course.
 - a. Methods of testing achievements of the class.
 - b. How many such tests should be included?

3. Extent to which science, art, and social economic topics should be incorporated into the course.
4. Selection of topics adapted to the maturity and interests of the grade.

PROBLEMS

1. Should any discussion of individual or family budgets be included in elementary school courses? Specify the conditions under which such work might be desirable, and outline the problems that should be considered.
2. Compare several elementary school sewing courses and outline the number of lessons in each that might be designated as selection of clothing. Do these sewing courses include a study of fabrics used in the girls' clothing, or only a study of those used in the sewing class? Compare the amount of time given to a study of fibers and that given to a study of fabrics.
3. Outline a course giving the best distribution of time in seventy-two lessons given to foods and their use.
4. Outline a course of 144 lessons in clothing for the elementary schools. Should this course include constructive art problems? What proportion of time should be given to this aspect?
5. How would you distribute the sixteen units required for high school graduation in a non-vocational course including four units of home economics? Such a course should fulfill college entrance requirements. It should include all the essential contributions from the arts and the natural and social sciences.
6. Make out a working plan of how you would study the needs of your school district. What agencies would you consult—charitable, civic, or social organizations, such as women's clubs, girl scouts, etc.?
7. If home economics is an elective subject in your school, what safeguards will you take to maintain the academic standing of your courses?

8. Outline a group of lessons on clothing that will be of value for both boys and girls. In what grade should this topic be offered?
9. Outline a general plan for an industrial arts course for grades one to six. What part of this course should be taught by the home economics teacher?

Supplementary References

- Courses of Study issued by United States Bureau of Education.
Courses of Study issued by Federal Board for Vocational Education.
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- A. F. Morgan. A Survey of the Teaching of Home Economics in the Public Schools of California. *The School Review*, October, 1921.
- Household Arts. Board of Education of Massachusetts, Bulletin No. 29, 1916.
- E. W. White. Household Arts. The Gary Public Schools. General Education Board, 1918.
- A. M. Cooley, C. M. Winchell, W. H. Spohr, J. A. Marshall. Teaching Home Economics. Macmillan Co.

APPENDIX

ONE UNIT GENERAL HOME ECONOMICS COURSE

36 Weeks—7 periods per week.

This course is suggested as a required unit in home economics to be offered in the ninth or tenth grade.

It is expected that the students undertaking this course will have had in the elementary school some study of food and its preparation and of sewing and textiles. A course of seventy-two lessons in each of these subjects is suggested as a minimum prerequisite. Since no attempt has been made to include all of the related science and art topics that are essential to the understanding of the many problems of this course, prerequisite or parallel work in design and general science is another necessary condition.

Home projects and observation and report projects should be used throughout this course.

GENERAL OUTLINE

- I. SELECTION OF FOODS.
- II. SELECTION OF CLOTHING.
- III. SELECTION OF THE HOUSE AND FURNISHINGS.
- IV. HOUSEHOLD EXPENDITURES.
- V. THE HOUSEHOLD AND THE COMMUNITY.
- VI. THE FAMILY.

I. SELECTION OF FOODS. Time, six to eight weeks.

A. Qualitative study of food selection.

1. Food essentials.

a. Nutritive groups—protein foods, vegetables and fruits, sugars, fats, cereal foods, protective foods.

b. Use in single meals and daily plans.

2. Lists of foods commonly served—effect of methods of preparation on nutritive value.

3. Food combinations as seen in homes and printed menus.

4. Qualitative difference in food plans due to age of different members of the family.

5. Planning original menus embodying above principles.

6. Laboratory work in meal serving.

B. Quantitative study of food selection.

1. Study of quantities of food materials served to the family in terms of pounds or quarts of specific foods used daily and weekly.
 - a. Size of servings and number of servings per purchasing unit.
 - b. Quantities of staple foods needed by the family and best unit of purchasing.
 - c. Marketing list for families of different sizes—daily and weekly.
 - d. Menus planned on basis of using definite quantities of each type of food material.
2. Study of quantities needed by the individual in terms of fuel value, protein, mineral matter, etc.
 - a. Exhibits of 100 cal. portions and estimation of number of cal. required daily.
 - b. Exhibits of quantities of protein foods needed daily.
 - (1) Qualitative study of proteins.
 - (2) Comparison with quantities of each food actually used by the family.
 - c. Exhibits of foods showing quantities of mineral matter needed daily compared with family allowance of these foods.
 - d. Study of advisable quantities of protective foods to be used daily.
 - e. Influence of age, occupation, climate and activity on individual and family needs.

C. Study of food cost.

1. Food allowances per man per day.
 - a. Cost of marketing lists at current prices.
 - b. Substitution in marketing list to reduce cost.
 - c. Meals prepared at various standards.
2. Food budget.
 - a. Proportion of food expenditure used for each type of food in different homes—figures secured from vouchers accumulated by class.
 - b. Expenditure as a basis of judging efficiency in selection—compare home expenditures with standards.
 - c. Account forms devised by class to assist in study of food costs.

II. SELECTION OF CLOTHING. Time, six to eight weeks.**A. Study of fabrics.**

1. Study of fabrics in the clothing worn by the family.
 - a. Simple physical test of fabrics, fibers and dyes in wash fabrics.
 - b. Characteristics of standard fabrics and experience in selection of qualities for different purposes.
 - c. Standards of quality of fabrics in ready-made clothing of different prices.
 - d. Study of materials in clothing that "has not worn well" to find explanation of poor quality. Study of materials that have worn unusually well.
2. Study of cost of fabrics.
 - a. Study of amounts of material of different widths needed for different garments.
 - b. Estimates of cost of material in different types of garments, using own clothing as basis and securing prices of equivalent materials.
 - c. Study of comparative cost of main materials and trimming in different garments.

B. Study of art aspects of clothing selection.

1. Color.
 - a. Analysis of colors in fabrics, using color wheel.
 - b. Color combinations.
 - c. Study of the values and qualities of each color that are becoming to the individual members of the class.
 - d. Use of color in clothing, and effects that may be produced by combinations of color and texture.
2. Design in clothing.
 - a. Principles of design as illustrated in costumes.
 - b. Analysis of good and poor design in ready-made garments.
3. Analysis of style.
 - a. Study of the silhouette and of the dominating characteristics of gowns, suits, and coats during several years.
 - b. Characteristics of extreme and conservative style through several years.
 - c. Adaptation of a style to different figures.
 - d. Analysis of basis of styles—historic, national, periodic return, etc.

C. Study of clothing costs.

1. Comparison of ready-made and home-made.
 - a. Wage earned by girl making her own clothes—data from sewing done in homes of the girls.
 - b. Study of comparative wearing quality of ready-made and home-made clothing.
 - c. Influence of intelligent demand on offerings in shops.
2. Study of price of clothes.
 - a. Standards of buying.
 - (1) Initial cost high, fabric good, style conservative—to be used two or three years.
 - (2) Initial cost low, fabric poorer, style extreme—to be used for one season.
 - (3) Initial cost high, fabric good, style extreme—discarded after one season.
 - b. Garments bought on different standards.
 - (1) Cost per wear of dress and every-day costumes.
 - (2) Comparative cost of good materials remodeled and two seasonal gowns.
3. Clothing budget.
 - a. Proportion of total income spent for clothing in different income groups.
 - b. Division of total clothing budget between members of the family.
 - c. Study of individual clothing budget.
 - (1) Each girl tabulate clothing on hand as to number of articles, probable price, and year when bought.
 - (2) Establish an average for the class and compare with standard allowance.

III. SELECTION OF THE HOUSE AND FURNISHINGS.

Time, six weeks.

A. Essentials in house selection.

1. Sanitary aspects—community housing laws.
2. Essentials versus conveniences.
3. Conveniences as related to time saving—cost of minor conveniences.
4. Plumbing and heating systems.
5. Points in construction of house to be noted by prospective householders.
6. Appearance as an element of selection. Study of architecture of the community with special reference to the good examples of adaptation to needs of family life.

B. Study of rental values.**1. Location.**

- a.* Proximity to civic or commercial improvements.
- b.* Social evaluation.
- c.* Cost of essential transportation.

2. Factors in rental.

- a.* Land rent.
- b.* Capital invested in building and legitimate interest on investment.
- c.* Maintenance and deterioration of building.
- d.* Taxes.
- e.* Responsibility of landlord and householder—leases, insurance, etc.

3. Ownership versus rental.**4. Study of rental values within definite area.**

- a.* Fuel and light as an element of cost of housing—measurement and type.
- b.* Amount paid per month for a yard, a view, attractive exterior, etc.

C. Home decoration on the basis of periodic renewal—selecting new hangings or wall paper, rehangng pictures, replacing furniture, refurnishing a single room, etc.**1. Design and color in household furnishings.**

- a.* Household textiles (hangings, upholstering, rugs, etc.)—scale of design, unity of design, elements of design, harmonious colorings.
- b.* Furniture design—structural design, harmonious combination of woods.
- c.* Wall covering—color and design.
- d.* Decorative accessories—ceramics, pictures, etc.

2. Design in arrangement of furnishings.

- a.* Floor, window, wall treatment.
- b.* Grouping of furniture.

D. Cost of household equipment.

- 1. Cost of essential renewal of household textiles.**
- 2. Cost of essential working equipment—cooking, cleaning, laundry work, etc.**
- 3. Yearly allowance for additions to household furnishings.**

IV. HOUSEHOLD EXPENDITURES.

Time, six weeks.

A. Purchasing.

1. Market price.

a. Demand and supply.

- (1) Economic versus personal demand.
- (2) Effect of controlling supply and restricting demand—monopoly, boycott.
- (3) Equalizing supply throughout the year.
- (4) Regulation of market prices—effect on demand.

b. Relation of quality and quantity to price.

- (1) Standards of quality in different material—substitution versus adulteration.
- (2) Cost of control of quality—pure food laws, sanitary measures, etc.
- (3) Quantity in purchasing.
 - (*a*) Gain in large quantity buying.
 - (*b*) Forethought in purchasing. Knowledge of monthly and yearly needs of the family in staple foods and clothing.

2. Study of clothing industry.

a. Advantage of large scale production—custom-made, factory-made.*b.* Manufacturing price.

- (1) Cost—wages, material, overhead.
- (2) Profit—"all the traffic will bear."
 - (*a*) Effective purchases of material.
 - (*b*) Exclusiveness of design.
 - (*c*) Legitimate return—salary of manager and interest on investment.
 - (*d*) Quality of workmanship.

c. Retail price.

- (1) Cost—varies with amount of service, effective purchasing, etc.
- (2) Profit.
 - (*a*) Transient values in clothing.
 - (*b*) Knowledge of psychology of purchaser.
 - (*c*) Exclusiveness of design.
 - (*d*) Turn over of stock.
- (3) The bargain—legitimate and unfair reductions in price.

3. Study of food market.
 - a. The wholesale market.
 - (1) The function of wholesale agencies.
 - (2) The use of wholesale agencies by domestic purchaser.
 - b. Costs in retail market organization.
 - (1) Accessibility—small shops and high rents.
 - (2) Delivery and other service.
 - (3) Exclusive demand for assorted stock.
 - (4) Elaborate equipment.
 - (5) Slow turning stock—bargains.
 - (6) Advertising, premiums, leaders, purchasing by name.
4. Responsibility of purchaser.
 - a. Responsibility for conditions under which purchases are produced—Consumers' League, "white lists," child labor.
 - b. Responsibility for creating demand for good quality.
 - c. Responsibility in reducing retail cost—intelligent purchasing versus "cash and carry."
 - d. Credit as a business method.
 - (1) Economic value and abuses of credit.
 - (2) Forms of payment—cash, time payment, monthly accounts.

B. Family budgets.

1. Division of income.
 - a. Food, clothing, and shelter—based on costs studied previously.
 - b. Additional items of budget.
 - (1) Savings and investment.
 - (2) Health expenditure.
 - (3) Education.
 - (4) Social expenditure—clubs, entertaining, theatre.
 - (5) Maintenance of equipment.
 - (6) Service.
2. Account forms.
 - a. Adaptation of forms to type of payment used in the home—advantages and disadvantages of charge and cash accounts.
 - b. Function of account keeping—analysis of expenditure.
 - c. Essential facts to be shown by daily, weekly, monthly, and yearly forms.

APPENDIX

3. The homemaker's contribution to the income.
 - a. Wage value of different grades of work.
 - (1) Direct productive activities—sewing, cooking, cleaning.
 - (2) Supervising—purchasing, planning, etc.
 - (3) Service—waiting on table, answering door, straightening a room, care of children, etc.
 - b. Domestic service.
 - (1) Comparison with labor problem outside the home.
 - (2) Methods by which household services may conform to economic principles.
 - c. Conservation of effort and time of the homemaker.
 - (1) Labor saving appliances.
 - (2) Use of commercial agencies—laundries, dry cleaning, ready-prepared food shops, etc.
4. The relation of the family budget to wages.
 - a. Wages of women workers.
 - b. Minimum wages.
 - c. Labor laws.

V. THE HOUSEHOLD AND THE COMMUNITY.

(Emphasis on this aspect of the course should vary with the amount of possible coördination with community civics courses.)

A. Food supply.

1. Sources of staple foods found in markets.
2. Effect of transportation facilities on food supply.
 - a. Transportation and variety in food.
 - b. Possibility of transportation from producers to retail market.
 - c. Adequacy of market terminal facilities—waste in shipping and in terminals.
3. Community food problems.
 - a. Advisability of public markets—types adapted to locality.
 - b. Regulation and inspection of food supplies—national, state, and local.

B. Community housekeeping.

1. Waste disposal.
 - a. Garbage.
 - (1) Ordinances concerning household garbage.
 - (2) Conspicuous household waste as a community problem.

- (3) Methods of garbage disposal used in local community.
- (4) Systems of garbage disposal.
- b. Sewage.
 - (1) Individual sewage systems.
 - (2) Community sewage systems and relation to water supply.
- 2. Community cleanliness.
 - a. Smoke.
 - (1) Relative responsibility of domestic consumer and commercial enterprise.
 - (2) Inspection and methods of controlling smoke production.
 - b. Street and alley cleaning.
 - (1) Community regulations.
 - (2) Responsibility of individual—local civic improvement organizations.
- C. Community health.
 - 1. Preventive.
 - a. Control of communicable diseases—quarantine, inspection of school children, etc.
 - b. Supervision of food and water supply.
 - c. Housing control.
 - 2. Remedial.
 - Hospitals, clinics, and sanitariums.
 - 3. Constructive.
 - Recreation, playgrounds, city or town planning.
- D. Community protection.
 - 1. Fire protection.
 - a. Fire laws in the construction and use of building.
 - b. Fire insurance.
 - 2. Care of dependents.
 - Agencies in community—public and private.
 - 3. Prevention of accidents.
 - a. Safety appliances.
 - b. Traffic laws.
- E. The Community Budget.
 - 1. Income—taxes.
 - 2. Expenditures of the budget.
 - a. Budget exhibits and budget planning.
 - b. Responsibility of individual for community expenditures.

VI. THE FAMILY.

- A. The purpose of family life.
 - 1. Care and training of children.
 - 2. Its value as a conservator of social standards and in the development of social habits.
- B. Standards of living.
 - 1. Historical development of American family life since colonial days.
 - a. Home activities.
 - b. Greater independence of the members of the family.
 - c. Changes in standards of living and in the meaning of needs and luxuries.
 - d. Influence of shorter working hours in industry.
 - 2. Economic relationship of the family.
 - a. Real income and the contribution of each member of the family.
 - b. The cost and value of prolonging the dependency of children.
 - c. Need of making budget planning a family problem.

INDEX

- Accounts, household, 183
Administrative problems, 306
Agriculture, 18, 212, 259
Aims in teaching, 29, 218, 308, 309
 in educational terms, 225
 social, 223
 statements of, 220
 vocational, 223
Alderman, L. R., 189
Americanization, 82
Applied design, 126, 280, 283
Applied science, 13, 258, 261
Appreciation, 29, 226, 232, 237
 development of, 51
Architecture, domestic, 151, 155,
 279
Art courses, 238, 279
 costume design in, 137
 house decoration in, 158
 types of, 279
Ashley, R. T., 196
Bailey, H. T., 285
Basketry, 123
Biology, 195, 265
Boston Trade School, 240, 241
Boughton, A. C., 208
Boys, courses for, 238, 290
 manual training for, 211
Budgets, 178
 clothing, 143
 family, 182
 food, 95
 personal, 181
Burch, H. R., 196
Catering, 77, 241
Chemistry, 259
 general, 260
 household, 261
Child care, 99
 courses in, 192
 vocational courses in, 100
Civics, courses in, 4, 196, 210, 238
Class period, length of, 35, 294,
 298
Cleaning processes, 164
Clothing budget, 143
Clothing courses, 128, 129
 in grades 7 and 8, 291
Clothing selection, 128, 149
College entrance requirements, 299,
 302, 308
College preparatory, 301
Color, 283
 in costume, 138
 in house decoration, 161
Committee on Correlation of
 Chemistry and Home Eco-
 nomics, 262
Committee on Social Studies, 270,
 273
Community civics, 270, 272
Community hygiene, 189
Community needs and problems,
 6, 81, 153, 271
Concrete topics, 9, 12, 13, 82, 258,
 263, 266, 273, 293
Constructive activities, 123, 284,
 288
Constructive thinking, 30, 123
Consumers, 234
Continuation classes, 243, 244
Cooking courses, 60, 73, 204, 291
Correlation, 253, 254, 269
Cost of living, 95, 179, 274
Costume design, 136, 241, 279, 281
 courses in, 137
 original designs, 141
 practical designing, 142
 style, 140
Courses of study, 2, 4
 planning of, 308
Credit
 for courses, 298
 for home work, 189
Crocheting, 125, 285
Curriculums, 300
Dawson, J., 266
Demonstrations, 40, 71, 106, 110

- Design, 279, 283
 in architecture, 156
 in costumes, 139
 in house decoration, 159
- Dewey, J., 11, 46, 213
- Dietaries, in food courses, 60, 85, 264
 food requirements, 99
 qualitative study of, 89
 quantitative study of, 91
- Dietary calculations, 94
- Diets, 100
- Discussion, 35, 37
- Disposal of products, food classes, 77
 sewing classes, 114
- Drafting, 121
- Drawing, 281
 in costume design, 141
 in house plans, 154
- Dressmaking, 105, 122, 142, 241
- Drills, 41, 111
- Economics, 238, 270, 273
- Elective courses, 301
- Elementary school courses, 214, 223, 238, 288
- Equipment, 42, 246
 in cooking courses, 77
 in housewifery, 164
 in sewing classes, 109, 120, 131
- Exhibits, 32
 in clothing, 132
 in food selection, 88, 91, 94
 in food preparation, 72, 76
 in house decoration, 159
- Experience of students, 3, 11, 37, 306
- Experiments, 31
 in food courses, 65
 in housewifery, 164, 165, 167
 in sewing courses, 106, 113
 methods of using, 68, 69
- Extension classes, 192, 240, 244
- Family, the, 196, 209
 courses in, 198, 271
- Federal Board for Vocational Education, 243, 244, 246, 304, 308
- Field trips, 32, 72, 63, 153
- Fitting, 122, 241
- Food chemistry, 260, 264
- Food courses, 60, 85, 215, 256, 259, 264
 in grades 7 and 8, 291
- Food groups, 91
- Food habits, 76, 86, 99
- Food preparation, 60, 73, 85
- Food products, 61
- Food selection, 85
- Food value, methods of teaching, 90
 relation to cost, 96
- Formal discipline, 220
- Furnishings, 292
 cost of, 162
 design in, 159
 selection of, 161
- Garment construction, 107, 115
- General courses
 art, 279
 home economics, 13, 23, 292, 294, 301
 industrial arts, 289
 mathematics, 21
 science, 21
- General education, 232
 aims of, 220
 relation to home economics, 214
- General science, 2, 195, 209, 266
- Grade teachers, 290, 306
- Group teaching, 36, 107
- Habits, 41, 219, 225, 233, 245
- Hand sewing, 290
 teaching stitches, 40, 110
 versus machine work, 107
- Handwork, 123
- Health agencies, 191
- Health instruction, 188
- History, 276
- Historic costume, 140
- Historic furnishings, 160
- Hodge, C. F., 266
- Home conditions, 81, 98, 105, 144, 153, 178, 190, 195, 197, 309

- Home economic education, 203,
228, 244
- Home economics, definition of, 22,
203, 208
as a subject, 214
field of, 208
non-vocational, 237
position in schools, 215
vocational, 239
- Home Economics Association, 204,
208
- Homemaking, definition of, 206
- Homemaking activities, 7, 176,
233
- Home nursing, 190
- Home projects, 18, 21, 46, 96, 158,
166, 179, 184, 187, 191
- Home work, 113, 294
- House care, 165, 292
- House decoration, courses in, 157
- Household activities, 214, 233,
249, 293
- Household Aid Company, 240
- Household arts, meaning of, 204,
213
- Household chemistry, 261
- Household management, 151, 171,
271
courses in, 172, 292
definition of, 209
- Household mechanics, 169
- Household physics, 265
- Household service, 177, 275
- House sanitation, courses in, 151,
154
- Housekeeping, definition of, 207
- Housewifery, 292
courses in, 163
in cooking classes, 76
- Housing, selection and planning,
152, 154
cost of, 157
standards in, 153
- Hunter, G. W., 195, 266
- Hygiene, 188
- Hygiene of clothing, 143
- Illinois, 194
- Imitation, 40, 110
- Income, 180
- Individual teaching, 20, 47, 106
- Industrial arts course, 289
- Industrial courses, 212
- Information, acquisition of, 225
- Initiative of students, 16, 46, 50
- Interests of children, 3, 304
- Judd, C. H., 256
- Junior high school, 271, 288, 293
- Knitting, 125
- Koos, L. V., 231, 254, 255, 267,
270, 272
- Laboratory manuals, 33, 55
- Laboratory methods, 29, 35, 38
- Laboratory work, types of, 30
amount of, 34
in clothing selection, 130
in food production, 62, 76
in food selection, 87
in home nursing, 191
in house decoration, 156, 158,
161
in housewifery, 164, 167
in sewing, 106
- Labor problems, 177, 275
- Laundry work, courses in, 167,
236
- Lecture method, 36
- Lessons, number in courses
elementary school, 295, 296
secondary school, 302
- Lunchroom cooking, 79, 242
- Machine work, 107, 112
factory methods, 114
position in grades, 109
technic problems, 113
- Manhattan Trade School, 240, 241
- Manual training, 215
aims of, 200, 211
influence of, 210
- Massachusetts, 210, 212, 297
- Mathematics, 21, 302
- Meal planning, 97
- Measurements of school work, 226,
309
- Mending, 117, 206

- Methods of teaching, 28, 247
 problem solving, 44
 relation of laboratory work and
 discussion, 37, 57
 selection of, 218, 309
 Millinery, 147, 149, 241
 Modeling, 281
 Motion studies, 164
 Motor training, 39
 in cooking classes, 73
 in sewing classes, 110

 Natural sciences, 64, 253
 Needle trades, 240, 244
 Needle-work, 124, 160, 285, 289
 Needs of community, 6, 81, 309
 Needs of students
 in courses, 3, 25, 81, 301
 in sewing courses, 105
 in vocational schools, 6
 vocational needs, 246, 299
 Non-vocational courses, 232, 237
 Norsworthy, N., 43
 Note-books, 70

 Objectives of teaching, 219
 Occupations in school work, 213,
 223
 O'Leary, I. P., 246
 Order work, 77, 241
 Organization of subject matter, 2,
 231, 309

 Painting, 280, 283
 Parker, S. C., 15
 Pattern study
 drafting, 121
 in different grades, 118, 119
 modeling, 120, 130
 pattern making, 118
 Patterson, S. H., 196
 Physics, 264
 Planning courses, 304, 307
 Practical arts, 213
 Preparation of meals, 75, 89, 97
 Prerequisites, 255, 263
 Principles of cooking, 63, 74
 Problem finding, 46
 Problems
 household, 44
 in text-books, 54
 value of, 43

 Problem-solving methods, 29, 36,
 44, 106, 148
 Productive power, 14, 30, 104, 220,
 232, 236
 Projects
 as a type of topic, 18
 home projects, 46
 home supervision of, 47
 meaning of, 14, 19
 methods of teaching, 15
 plans for, 49, 50
 school projects, 20
 use in courses, 19
 Prosser, C. A., 232
 Power operating classes, 114
 Public health, 191
 Purchasing, topics, 185, 275
 problems, 61, 95, 135, 237

 Quantitative work, 68, 91

 Ready-made clothing, 105, 116, 128
 Recipes, 56, 65
 Repair of clothing, 117
 Repair of furnishings, 166
 Required courses, 238, 300, 301
 Results of teaching, 5, 8, 227

 Sargent, W., 284
 Scales, measuring, 41, 228
 School credit for home work, 189
 School life, length of, 287, 308
 School lunch, use in teaching, 78,
 86
 School projects, 20, 46, 161, 178,
 179
 Science courses, 238
 home economics as, 259
 Scientific method, 45, 259, 271,
 306
 Secondary school courses, 214,
 223, 238, 241, 243, 298, 300
 content of, 302
 Selection of
 clothing, 128
 food, 85
 housing, 152
 subject matter, 1, 2, 4, 21, 309
 Senior high school, 264, 294

- Sequences, in courses, 25
 in motor training, 42
 in projects, 50
 of cooking problems, 74
 in teaching stitches, 112
- Sewing courses, 104, 204, 249, 291
- Shop methods, 242
- Skill, 39, 248
 acquisition of, 221, 226
 in cooking, 73, 80
 in housewifery, 164
 in sewing, 104, 110, 112, 122
 relation to appreciation, 52
 value of home projects, 42, 74
- Smith-Hughes Act, 204, 212, 243, 244, 302
- Snedden, D., 16, 52, 204, 205, 246, 280
- Social hygiene, 195
- Social ideals, 173, 197
- Social problems, 196
 courses in, 271, 274
- Social sciences, 269
- Social value, 214, 219, 224, 237
 of subject matter, 7
- Sociology, 275
- Special teachers, 307
- Standards in courses, 221, 227
 in lunchroom work, 79
 in secondary school, 303
 non-vocational, 238
 vocational, 248
- Standardizing courses, 5, 226
- Standards of living, 180, 224
- Status of home economics, 203
- Stitches, teaching of, 40, 110
- St. Louis School of Housekeeping, 240
- Strayer, G. D., 43, 51
- Subject matter
 courses, 215
 in text-books, 53, 115
 organization of, 7
 selection of, 1, 21
- Supervised study, 35
- Supervision of home projects, 47
- Survey of art, 279
- Teacher training courses, 5
- Teaching units, 7
- Technical training, 239, 241
- Terminology, 203
- Tests, 227, 309
- Text-books, 4, 52, 258
- Textiles, 132
 in laundry courses, 167
 laboratory exercises, 132, 135, 143
 manufacturing processes, 133
- Time allowance, in courses, 294, 296, 298
 for home work, 295, 297
- Time of homemaker, 165, 175, 246
 contribution to income, 177
- Topics, 7
 concrete topics as projects, 18
 in text-books, 54
 selection of, 8, 219
 use of, 11, 13, 18
- Trade training, 239
- Trades and industrial education, 244
- Tradition in courses, 2
- Training of children, 194
- "Unit" courses, 14, 24, 240, 250
- Unprepared courses, 36, 295
- Vocational education, beginnings
 of, 212, 220
 home economics in, 230
- Vocational high schools, 240
- Vocational home economics, 239
- Vocational training, 239
 in junior high schools, 294
- Vocations related to home economics instruction, 206, 239
- Wage-earning of homemaker, 176, 234
- Weaving, 124, 284, 287
- Woodworking, 211, 288
- Working drawings, 282

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