DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 50
IN SEVEN PARTS

# THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE

REPORT OF A SURVEY MADE UNDER THE DIRECTION OF THE COMMISSIONER OF EDUCATION

## PART 6

## INDUSTRIAL ARTS, HOME ECONOMICS AND GARDENING

WASHINGTON
GOVERNMENT PRINTING OFFICE
1920

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## LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
*Washington, September 25, 1919.*

SIR: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a survey of the schools of the city of Memphis, Tenn., made under my direction. I am asking that it be printed in the following seven parts:

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics, and Gardening.
Part 7. Health Work.

Respectfully submitted.

P. P. CLAXTON,
*Commissioner.*

The SECRETARY OF THE INTERIOR.

# THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE.

## INTRODUCTION.

In April, 1919, at the request of the Board of Education of Memphis, Tenn., the United States Commissioner of Education submitted the conditions on which the Bureau of Education would make a survey of the public school system of that city. These conditions, as stated by the Commissioner of Education, follow:

(1) That the board of education, the superintendent of public schools, and all other public officers and teachers connected with the schools will give me and the persons detailed to make the survey their hearty cooperation, to the end that the survey may be made most effectively and economically.

(2) That the survey committee be permitted to find the facts as they are, and, in so far as may seem advisable, to report them as they are found.

(3) That the findings of the survey committee and such recommendations for the improvement of the schools as may seem to be desirable may be published as a bulletin of the Bureau of Education at the expense of the Federal Government for distribution, first, among the citizens of Memphis and, second, among students of education throughout the country.

(4) That the necessary expenses of the survey, including expenses for travel and subsistence for employees of the bureau detailed for this work, and the honorariums and expenses of the one or more additional persons whom it may be necessary to employ to assist in the work will be paid by the board of education. It is understood, however, that the board will not be obligated for expenses beyond $5,000.

It is my purpose to begin the survey on or before May 12 and to have the field work of it finished in June. The final report will be submitted and printed as early as possible after the 1st of July. Such portion as may be needed by the board in determining their building policy for next year will be submitted as much earlier than the 1st of July as possible.

On May 5 the commissioner was notified that all the conditions named had been agreed to. To assist him in making this study the commissioner appointed the following commission:

### THE SURVEY COMMISSION.

Frank F. Bunker, *Specialist in City School Systems, Bureau of Education, director of the survey.*

Thomas Alexander, *Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.*

William T. Bawden, *Specialist in Vocational Education, Bureau of Education.*

Hiram Byrd, *Specialist in Health Education, United States Public Health Service.*

Elmer W. Christy, *Supervisor of Industrial Education, Public Schools, Cincinnati, Ohio.*
Fletcher B. Dresslar, *Specialist in School Architecture, Sanitation, Buildings, and Equipment, Bureau of Education.*
Arthur W. Dunn, *Specialist in Civic Education, Bureau of Education.*
Will Earhart, *Supervisor of Music, Public Schools, Pittsburgh, Pa.*
Alice Barrows Fernandez, *Specialist in Social and Industrial Problems, Bureau of Education.*
Florence C. Fox, *Specialist in Primary Grade Education, Bureau of Education.*
Ada Van Stone Harris, *Director of Elementary Practice Teaching, Public Schools, Pittsburgh, Pa.*
Carrie A. Lyford, *Specialist in Home Economics, Bureau of Education.*
F. A. Merrill, *Specialist in School and Home Gardening, Bureau of Education.*
John L. Randall, *Specialist in School and Home Gardening, Bureau of Education.*
Willard S. Small, *Specialist in School Hygiene and Physical Education, Bureau of Education.*
George R. Twiss, *Professor of Secondary Education and State High School Inspector, Ohio State University.*

The field work began May 12 and was completed June 7, except that two members of the staff remained two weeks longer.

While the time for the examination of conditions was short, the schools closing for the year on June 13, nevertheless, through careful organization of the work and through frequent meetings of the staff for the discussion of every phase of the problem, definite and positive conclusions in which all concurred were quickly reached. Although the commission as a whole considered every important activity of the work of the system, each member was assigned to the particular field of his interest. The reports of the members of the commission were organized by the director of the survey and transmitted to the Commissioner of Education for his approval. The report is issued in separate parts for general circulation.

THE PARTS TO BE ISSUED.

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
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Chapter II. The High Schools.
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Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics and Gardening.
Part 7. Health Work.

This study of the Memphis schools is intended to be a study of policies and of practices; not of persons. The commission has con-

sciously avoided either praising or blaming, crediting or discrediting, individuals. The matter of placing an estimate upon the value of the services which individuals are rendering is the duty of local authorities; it falls outside the province of the survey commission and has not been attempted.

The commission desires to express its appreciation of the courtesy and consideration shown its members by citizens of Memphis, the members of the board of education, the secretary's office, the superintendent and his clerks, and the entire school corps. Without exception, all cooperated to make the investigation as thorough and as efficient as the time would permit.

A special word of appreciation is due the management of the Young Men's Christian Association for providing office rooms and equipment for the staff, without charge, and to the local company handling the Burrough's Adding Machine, which very kindly loaned one of these machines to the staff.

A summary of conclusions and recommendations will be found at the end of each chapter.

# PART 6. INDUSTRIAL ARTS, HOME ECONOMICS AND GARDENING IN MEMPHIS SCHOOLS.

CONTENTS.—1. Manual training—Aims and purposes; variety and flexibility to be sought; colored schools; organization; elementary hand work; relation to other studies; equipment; course of study; time allotment; nature of shopwork; library. 2. Vocational education—enrollment; program for the Vocational High School; prevocational classes; basis for selection; unit trade classes; part-time classes; evening classes; vocational school for negroes. 3. Home economics—In the Central High School; in the Vocational High School; in the Rozelle School; in the Kortrecht High School (colored); in the Grant School (colored); recommendations. 4. School gardening—time in school; Memphis a pioneer in gardening; activities of children; occupation of children; available space; teacher training; summary of conclusions and recommendations.

## 1. MANUAL TRAINING.

Limited provision has been made for manual training in the Memphis schools. The supervisor of art instruction has given such encouragement as was possible to the simpler forms of handwork in the lower grades. The work has never been adequately supported by the board of education, and has been confined chiefly to what a few ambitious and energetic teachers have undertaken on their own initiative.

During the past two years the energies of teachers and pupils in all the schools have been absorbed in special work for the Junior Red Cross, under the direction of the supervisor of art instruction, and a very creditable showing was made. During this period all of the scheduled work in art instruction was suspended.

In one school, Rozelle, the building contains rooms set aside for shop and storeroom, but these stand idle for lack of a teacher and suitable equipment.

In one colored school, Grant, there is a woodworking shop, with the usual complement of individual benches and tools. In the West Special School a basement room has been equipped with benches and tools, but is unused for lack of a teacher. The room is crowded and inadequately lighted, and, in general, not well suited for the purpose.

With these exceptions, and aside from the home economics discussed elsewhere, Memphis makes no provision for handwork in the elementary schools. In this respect the city lags far behind the school systems of other cities of her population class.

On the other hand, the equipment and facilities provided at Central High School compare very favorably with those to be found in other cities. The rooms available include bench woodworking shop, wood-turning shop, machine woodworking shop, forge shop, tool room, stock room, drafting room, locker rooms, etc. The benches, machines, and tools in the various shops seem to be adequate for the purposes in view, well cared for and in good condition. However, the lack of suitable guards on certain of the dangerous machine tools was noticeable.

The teaching force appears to be inadequate also, since at the time of the survey two instructors were supervising the work of four classes in four different rooms.

The equipment for bench woodworking at the Kortrecht High School, colored, may have been satisfactory at the time it was installed some years ago, but it is wholly inadequate now. The conditions of building and equipment generally at this school are inexcusably bad, and it is doubtful if renovation or repairs can make them acceptable.

The work of the Crockett Vocational School is discussed in the second section of this Part.

## AIMS AND PURPOSES.

Handwork in the elementary school may be employed for the accomplishment of at least three distinct educational ends: (1) To develop manipulative skill, and the ability to "do" things; (2) to impart knowledge of materials and processes of construction; and (3) to vitalize the instruction in various subjects of study, such as geography, history, and language.

Very young children do not respond spontaneously to a program of handwork designed primarily to accomplish the first of these aims—the development of manipulative skill. They lack interest and the necessary basis for muscular control. Nevertheless, the child likes to make things, and although results are crude at first, his ideals are capable of cultivation, and from grade to grade increasing emphasis may be placed on accuracy and precision of workmanship.

Methods and processes of handwork designed to accomplish the third of these aims, vitalizing the instruction in various subjects, are well adapted to the instincts and capacities of children in the lower grades. Such work includes the arrangement on the sand table of the settings of various stories which form part of the instruction in reading, and of scenes and events selected from history and geography. It includes also the making of small articles that serve some purposes in the schoolroom as well as the representations of a considerable variety of objects taken up in the course of the regular

studies. These may include the implements used in carding, spinning, weaving, etc.; series of small models or representations of various types of vehicles, to show the development of transportation; types of tools, utensils, and the like.

Handwork, when suitably organized and presented, has a twofold educational value for young children; not only does it serve to illustrate and vitalize the instruction in the regular studies by giving a richness of meaning to words and ideas through concrete expression, thus making the instruction more effective, but it also serves in a very definite way to extend the child's field of knowledge and experience through acquaintance with a variety of materials, their most obvious properties and uses, and to a limited extent, their sources and methods of preparation for commercial use.

Work of the type first mentioned is of value chiefly as discipline, for the development of technic, muscular coordination and control, and for the development of ideals, not only of artistic excellence and fitness of an object to its purpose, but also of good workmanship and the relation between effort and accomplishment. It is important in handwork which has these objects in view to maintain constantly progressive ideals of excellence in workmanship and design, and to undertake only such constructions and processes as are reasonably within the capacities of the children.

Activities designed to vitalize the instruction in other subjects are of value chiefly for their contribution to the effectiveness of the instruction in those subjects, and for the opportunity afforded for the free play of the child's imagination in self-expression and self-direction. Here also progressive standards of technic should be applied, but not to the extent of discouraging the child from thinking and acting independently. The emphasis should be on spontaneity and the general effect to be produced by the representation, rather than upon process and technic.

That type of handwork which aims primarily to impart knowledge of materials and processes of construction is perhaps not sharply distinguished from the other two. It overlaps both, and becomes of increasing importance with the progress of the child through the grades.

These three types of work have important places in the education of young children, and should be provided for adequately in all elementary schools.

Because of the changes in emphasis, and for administrative reasons which will appear hereafter, it is convenient to divide the eight grades of the elementary school into two groups, 1 to 4 and 5 to 8, and to plan the program of handwork accordingly.

In the earlier grades the best results are secured when the handwork is taught by the regular grade teachers. It is much easier for

these teachers to relate the work to the other studies and activities of the children. With the progress of the children through the grades, however, the work becomes more and more complicated, and the tools and processes more difficult of manipulation. In time the point is reached beyond which it is impracticable to expect the grade teacher to acquire the necessary technical skill and knowledge to carry on this work in addition to all the other requirements of her position.

Experience in a number of cities has shown that the fifth grade marks a convenient point at which to introduce departmental methods in dealing with certain special subjects, as handwork and music. In case it is impracticable to employ a teacher to give her entire time to a special subject, as handwork, it is sometimes possible to secure very satisfactory results by a division of labor among the grade teachers in a building. Under this plan one teacher would be assigned all the handwork in grades 5 to 8, another all the music, and so on. In each such case the remainder of the teacher's time is devoted to the regular work of her grade room.

Again, during the first four grades the handwork is the same for boys and girls. With the beginning of departmental teaching in grade five, it is possible to introduce a gradual differentiation in the work. It is inadvisable to make this differentiation abrupt or exclusive. While, in general, the interests of girls will tend in the direction of sewing, cooking, and homemaking, and the interests of boys toward shopwork and drafting, both sexes should have the opportunity to participate to some degree in both main lines of activity.

## VARIETY AND FLEXIBILITY TO BE SOUGHT.

The most serious criticisms that have been directed against current practice in manual training in these grades are that the work tends to become too formal and that the range of activities covered is too narrowly restricted. The practical difficulties involved in administering a shop under school conditions have frequently led to an objectionable formality in instruction and rigidity in method of procedure, and too often the shop instruction has been limited to a course in woodworking.

With respect to the first criticism, it must be evident that manual training loses much of its educational value when it is reduced to a routine in which the instructor does most of the thinking and planning, while the activities of the pupils consist chiefly in following detailed directions. With respect to the second criticism, it is to be said that, if time permitted, manual training could be made much more interesting and profitable by adding to the woodwork a variety of processes selected from a number of other fields, such

as printing and bookbinding, simple metal work, electricity, cement, and concrete.

The service rendered to children by the manual arts should not be limited to its contribution to general education, even in the elementary school, though this may properly be the primary motive. So long as children are permitted to leave school at 14 years, or thereabouts, the school must offer in its curriculum some rational preparation for the life struggle which the children are to enter. The nature of this struggle, in our complex social and economic life, calls for something more than ability to read, write, and figure.

Beginning at the latest with the seventh year of school, therefore, and continuing through the high school, the prevocational aim for most children, and the vocational aim for some children, should receive definite recognition in the public schools. While the influence of these aims should not be limited to the work in the manual arts, it is here that the most favorable conditions will be found for its expression and development.

By "prevocational aim" is understood the attempt to assist boys and girls to study their own capacities and the possibilities of their environment, to "find themselves," and to make an intelligent choice at the right time of a future career based on some adequate understanding of the considerations instead of drifting helplessly into whatever chance and ignorance may offer.

The "vocational aim" will be served by any course or line of activity which may be carried on in the school, or which may be encouraged elsewhere under the supervision of the school, that assists boys and girls to make some progress toward preparation for an occupation that is definitely looked forward to.

In the junior high-school plan of organization, the seventh and eighth years constitute the period in which the prevocational work receives the greatest emphasis, while for most children specialization does not begin before the ninth year. It is a great error to suppose that these opportunities are offered in the school for the purpose of encouraging boys and girls to leave school early because they have received some preliminary training for jobs of various kinds. On the contrary, the primary purpose back of all this work should be to convince boys and girls by the very practical nature of the work that it is worth while to remain in school, and thus to keep them under the influence and guidance of the school as long as possible.

## COLORED SCHOOLS.

The special problems of the colored schools are discussed elsewhere in this report. It is sufficient here to observe that what is said with reference to handwork for white children applies with equal force

to the schools for colored children. An adequate program of handwork should be worked out in the colored schools by a capable staff, assigned to the task of making a careful study of the actual conditions and requirements. The work should be placed on an efficient basis and generously supported.

## ORGANIZATION.

As indicated elsewhere, the survey commission recommends the appointment of a capable man to serve as director of manual training and vocational work for boys and a capable woman as director of home economics and vocational classes for girls. Both should be responsible directly to the superintendent of schools.

The director of boys' work should have charge of all manual training and vocational classes from the first grade through the high school and including the special vocational school. He should personally direct the details of the work in grades 5 to 12. There should be an assistant director in charge of the work in the colored schools, and an assistant director, preferably a woman, to whom should be assigned the task of introducing and directing the handwork in grades 1 to 4.

The duties of the director should be to organize the department; to supervise and direct the work of the instruction in handwork, and in shopwork, drafting, and other vocational courses; to secure coordination of the work of the various courses and of similar work in different schools; to arrange regular conferences of the special teachers for discussion of the problems of the department; to organize the staff into a group for professional reading and study, and to make necessary arrangements for equipment and supplies. He should be a man worthy of a salary at least equal to that of the highest-paid school principal.

The assistant director in charge of the work in colored schools should be responsible to the director and should perform such duties as may be assigned when a plan of organization has been agreed upon by the superintendent of schools. He should give not more than half time to teaching classes of children and should receive a salary at least equal to that of the highest-paid elementary school principal.

The duties of the assistant director in charge of elementary handwork should be to confer with the regular teachers in grades 1 to 4, assisting them to introduce such types of handwork as they are now prepared to handle, and to meet the teachers in small groups for the purposes of instructing them in the technic of such additional lines of work as it may be decided to introduce. She should also prepare outlines of courses, detailed directions for procedure, and arrange

for necessary equipment and supplies. She should give not more than half time to teaching and should receive a salary at least equal to that of the highest-paid elementary school principal.

## ELEMENTARY HANDWORK.

The director and his staff should undertake as one of their earliest tasks the formation of a well-organized scheme of handwork for grades 1 to 4, which should be articulated as closely as possible with the prevocational and vocational work of the later years. In the beginning the lines of work for the first four grades should be selected to meet the capacities of the various teachers available to handle them, but notice should be given that after a reasonable time (say, Sept. 1, 1923) grade teachers will be expected to teach the handwork outlined in the course of study. Beginning with grade 5, a departmentalized system may be developed, by which one teacher in a building will be responsible for the handwork for the boys, another for the handwork for girls, another music, and so on.

During the introductory period from 30 to 60 minutes per week should be allowed for handwork, but the school program and course of study should be readjusted gradually to a more liberal allowance. Ultimately it will be found practicable to set aside for handwork not less than one-tenth to one-eighth of the present school time in grades 1 to 6; that is, from 2 to 3 hours per week, divided up into from 3 to 5 periods, according to program conditions.

In grades 7 and 8 (and 9 in junior high schools) the manual arts should receive not less than one-fifth to one-fourth of the present school time, or 5 to 7 hours weekly. The program should be flexible enough to provide an even larger proportion of time for these purposes, up to one-third or one-half for groups of selected pupils under special conditions on an elective basis.

## RELATION TO OTHER STUDIES.

A place for handwork in the schools should be found by a reorganization of the course of study and modified methods of instruction, and not by the mere mechanical process of displacing something old in order to add something new. It must suffice here to suggest very briefly those features of reorganization and method which would affect the handwork:

(*a*) To the extent that handwork is used to illustrate and reinforce the instruction in other subjects (as language, arithmetic, geography, history), it becomes a method of teaching these subjects and does not require a special allotment of time of its own. By thus making the instruction in these subjects more vital and concrete, and hence more effective, the same ground can be covered in less time.

(*b*) The elimination from the course of study of nonessential material (as certain obsolete topics in artithmetic) makes for a more effective instruction and for economy of time. (*c*) More time for handwork may be had by a redistribution of subjects in the various years of the school. For example, it may be found that a subject is spread over too many years of the course, and that desired results may be obtained with less expenditure of time for formal instruction. (*d*) The introduction of handwork and other features of the modern school, such as physical exercises, games, dramatizations, music, serves to make the school work more interesting and more enjoyable, so that, even if the aggregate time actually devoted to instruction is not materially increased, more can be accomplished with less fatigue and with greater satisfaction to both teachers and pupils. (*e*) The current tendency in the direction of a longer school year and a longer school day offers at least a partial solution of the problem of providing for new activities. (*f*) The segregation of certain types of special pupils in special classes makes for more effective and more economical use of time. These pupils include: (1) Those who are making more rapid progress through the grades than the normal rate of one grade per year; (2) those who are slower and retarded; and (3) those who are below normal, physically or mentally.

## SCOPE OF WORK.

The object in view should be a well-organized and articulated scheme of handwork, incorporating the best features applicable to local conditions that have been developed by progressive cities, with lines of work of sufficient variety and scope to meet the approval of modern educational thought and adapted to the capacities and needs of children at successive stages of growth.

The work should connect intimately and efficiently with the activities of the kindergarten and the training of the home, on the one side, and with the practical demands and actual conditions of the life careers into which the young people go when they leave school, on the other.

The work in the first four years should be adapted as closely as possible to the requirements of the reorganized course of study and should involve the manipulation of materials and processes in paper and cardboard, textiles, basketry, weaving, and drawing. Beginning in the fifth year the lines of work may well diverge with the varying interests of boys and girls, and for the boys should include opportunities for work in thin wood and elementary processes in bookbinding, printing, clay, cement, plaster, and such other groups as further study of conditions may indicate.

In the seventh and eighth years the boys should carry still further the problems in printing and bookbinding, and to these should be

added suitable work in copper, brass, iron, leather, cement, and concrete, electricity, benchwork in wood, and mechanical drawing. The woodwork may well include some simple framing and carpentry. All the shopwork should be made as practical as possible.

Effort should be made also to study and provide for the needs of special groups of children, such as those who are for any reason retarded in physical or intellectual development or in their progress through the grades.

With the amount of time suggested, it will be possible to devote sufficient attention to mechanical drawing in the elementary schools to enable all boys to make and read simple working drawings, and to provide for a few an introduction to the elements of architectural or machine drafting. All the mechanical drawing should be practical in character and in accordance with approved standards of draftsmanship. This work should be under the supervision of the director of manual training and taught by shop teachers, or by teachers who are familiar with shop conditions and who keep in close contact with the school shopwork.

## EQUIPMENT.

As rapidly as plans can be developed, and teachers made available, an industrial shop for boys should be opened in every elementary school (and junior high school), white and colored. The equipment and arrangement of the shops should be somewhat different from those now in use. The type of shop that has existed in the past developed under the influence of traditional school ideals of class units and rigid programs, and although there has been much more freedom and flexibility in the shop than in the usual classroom, there is need of still further flexibility.

The new type of shop is conceived as a laboratory in which real problems may be considered and solved by the pupils. Such problems may frequently involve other processes than those found in woodworking, and it is desirable to provide equipment in sufficient variety to prevent the work from being confined in too narrow lines. The transformation in shops and equipment should be brought about gradually to enable teachers to prepare themselves for the new conditions. Nothing is gained by adding tools or materials which teachers are not qualified to use advantageously and efficiently.

It is not necessary that all of the desired lines of work be carried on in any one shop, though a considerable variety of work may be thus provided. The object in view is to provide pupils with as wide a range as practicable of useful experiences, and this may be accomplished in various ways.

In many cities where it is not practicable to equip every building with a shop, it is customary to provide this feature at certain "cen-

ters," to which the boys and girls go from near-by schools. By this arrangement the expense of providing shops, which are used only part-time, in each school is avoided. Ultimately, no doubt, each school will have its own shop, but for the time being enough centers to accommodate the fifth, sixth, seventh, and eighth grades from all of the schools should suffice.

These shops may be located in unoccupied rooms in present buildings; or in separate new buildings erected for this special use. They may even be ground-floor or basement rooms if they are adequately lighted and ventilated and provided with dry wood floors.

The average classroom in modern buildings, however, contains only about 720 square feet, while an elementary school shop should contain not less than 900 square feet, exclusive of lumber storage, toolroom, and lockers for unfinished work. Too frequently this work has been started under discouraging conditions in dark, damp, and poorly ventilated rooms in a basement; sometimes a coal cellar has been emptied for such purposes, and very little done to make it acceptable as a shop. Local conditions must, of course, govern the action taken, but we can not emphasize too strongly the necessity for providing good air and light in the school shops.

Next in importance to the shop room is an adequate and well-selected equipment. At one time this meant a full set of tools for each boy who reported to the shop, but modern practice is much more economical. Each boy should have a work bench and vise, and each bench should be equipped with a few tools, such as a plane, chisel, ruler, brush, and possibly a back saw. Beyond this a smaller number of each kind of tool is required, since they may be used in common by all of the boys. The number of different tools need not be great, but the quality should be the best. It is well to standardize in the beginning as to the brand of tools, in order to facilitate repairs and replacements later on. Most elementary school shops are equipped with small benches, which are arranged in rows like the desks in a schoolroom. There is, however, a growing tendency to use long benches, placed against the walls and through the center of the room, thus providing a greater amount of open floor space for the assembling of projects. Each shop should contain a sink and water connections and, where available, a gas hot plate.

## COURSE OF STUDY.

Emphasis should be placed on the importance of handwork in all of the grades, beginning with the first and extending through the fourth, a field which has not been adequately developed. During this period the work may well be carried on in the regular classroom and be undertaken by both boys and girls. Heretofore, even in school systems recognizing the value of such work, paper and card-

board have been almost the only materials used for motivating the regular course of study. In some cases an understanding of their appropriateness required a decided stretch of the imagination, even for children. The great value of hand work in these grades is not so much the manipulative processes themselves as the motivation which it provides for lessons in geography, language, arithmetic, and other academic subjects. As an example of such work, the following description is offered of a project which was successfully carried through with a third grade, which was reading at the time the story of Robinson Crusoe.

A plain table was placed in the classroom and a few tools, such as a back saw, coping saw, hammer, and pliers were provided, and a wooden saw box which enabled the boys and girls to work with a considerable degree of accuracy. Now, with various sized strips of wood of indefinite length, secured from the shop for older boys, with glue, brads, and various other materials readily supplied by the children, a wonderful house and stockade, as well as the furniture used by Robinson Crusoe, were constructed to the great delight of the children. It is not necessary that the teacher be skilled in the use of tools to undertake such work, nor is it necessary that each child take part in the actual construction, although each one should make some contribution. Similar problems have been worked out in connection with the sand table. These problems should be suggested by the work at hand, and should be undertaken without particular emphasis on proper tool practice or sequential tool processes.

By the time boys have reached the fifth grade they are old enough and generally large enough to go to the shop at least one hour per week, where better facilities for work may be provided. At this age boys are still interested in toys and playthings, and these may well be made the basis of the year's work. The use of coping saws in cutting various figures out of thin wood is a rich field, especially if the work centers around some seasonal, civic, or historical subject, such as gifts for Christmas, a circus menagerie, or the animals at the zoo, or the Eskimos with their dogs and sleds. The work in this grade should be confined to the use of the simplest tools, although by means of jigs and special devices, eliminating the necessity for fine manipulative skill, the scope of the work may be greatly enlarged. Neatness and accuracy should always be demanded, but the chief problem is to direct their interest toward those things which boys of their development and experience can do well rather than permit them to undertake those things which are obviously beyond their ability.

In the sixth grade the more general use of tools and the making of articles requiring some degree of skill is advisable, but still the

desire to create should not be curbed by demands for technic. Again, the use of mechanical aids, such as planing jigs and saw boxes, are easily justified when the larger problems of utility, service, construction, and design are kept before the pupils. A boy in the sixth grade should learn to use the plane, saw, chisel, knife, screw driver, etc., and he should not be permitted to use them improperly, but such knowledge or skill is acquired slowly and generally through a realization of its necessity in order to accomplish satisfactory results rather than through continued practice on abstract pieces or models which lose their value in the estimation of the boys as soon as their construction has been accomplished. They should be required to plan their work and also learn to work from dimensioned drawings, but need not be required to make such drawings.

In the seventh grade the importance of technic should be brought sharply to the attention of the boys, and a study of tool processes may well be undertaken. Problems in soft wood requiring simple but accurate joinery are appropriate. A study of mechanical drawing may well begin at this point and one-fourth of the time allotted to shopwork seems to be about the correct proportion. Complete and direct correlation with the construction problems is no longer considered essential, but the work in drawing should not consist of sheets of abstract lines and geometrical problems, but begin at once on drawing of real objects.

The work of the eighth grade should be a continuation of the work of the seventh grade with the introduction of more difficult problems in both construction and drawing as well as practice in the staining and finishing of wood.

The suggestions made herein contemplate emphasis on problems which require constructive thought on the part of the pupil, stimulate the development of ingenuity and initiative in dealing with new situations, insure the formation of correct habits of technic and craftsmanship, and occasionally demand cooperative effort in which the students work together in groups on a single project. Too often school training has tended to repress independence and resourcefulness in the child, and to discourage the cooperative spirit, through the teacher's preliminary analysis of processes, and through refinement in details of directions for procedure. These faults in method have often resulted from overburdening the teacher with too many pupils, and from the utter insufficiency of the time allowed.

To provide problems to be solved by the pupils instead of by the teacher is much more difficult than to outline courses of models or exercises. Nevertheless, it is an ideal toward which public school work in the manual arts is tending, and as an ideal it has the advantage of representing a type of work that produces the maximum of interest and profit for both teacher and pupil.

At the same time, supervisor and instructor must not be permitted to lose sight of the value to both teacher and pupil of careful analysis of every individual problem, and of definite and orderly progression in the year's work. Too much enthusiasm for the freedom and fascination of the practical-problem method of work, unrestrained by insistence upon thoughtful analysis and systematic procedure, can not be expected to produce results of educational value commensurate with the amount of energy displayed. The best teachers will be found to depend much on the analysis of each problem into its successive steps, and a study of the history of manual training will show that the content value, or educational value, comes only after such analysis has been made, or in the process of making it. For this reason, successful teachers endeavor to have the work of analyzing the problem done by the pupil, so far as possible, though they recognize that in the earlier stages it must necessarily be done by the teacher.

The shop courses in Central High School should be continued, and modified in such way as to permit students who do not expect to enter college to elect a larger proportion of shopwork. The content of the shopwork courses offered, and methods of instruction, should be based on the opportunities open to boys and young men in local industries.

## TIME ALLOTMENT.

The foregoing recommendations are based on a program providing one hour per week for fifth and sixth grades and one and one-half hours per week for seventh and eighth grades. It should be considered as a minimum both as to time per week and minutes per recitation period. It seems unwise in a system where manual training has had no place to recommend a larger portion of the school time in the beginning. It must be recognized, however, that the maximum educational value of such work can not in any sense be realized in so short a period, and therefore in those schools from which a considerable number of boys will probably go direct into industry, this time should be doubled or trebled. To increase the time without broadening the scope of the work could not be justified; so that there must be a new conception of its purpose.

The old idea of manual training was based on the coordination of the hand and mind without particular reference to the kind of work to be undertaken. As wood was the most available, easiest worked, and cheapest medium of expression, it was naturally chosen and the development of a sequential course was accompanied by an analysis of tool processes which undoubtedly laid the foundation for the modern job analysis and efficiency systems. There is, however, a growing feeling among educators that work with tools and

materials is a much broader informational subject and that it offers opportunity to better acquaint boys with the great industrial world which confronts them at every turn and in which a large proportion of them are destined to play more or less important parts.

## NATURE OF SHOPWORK.

In previous paragraphs, in conformity with common practice, a course of woodwork was recommended as a nucleus for the manual training work, and this seems especially appropriate in Memphis, the greatest hardwood lumber center in the world. In accordance with present tendencies, however, deviations from such a course are not only advisable but necessary if the larger values are to be realized.

Taking advantage of the boy's natural desire to work with tools we should direct their energies first toward the making of toys and playthings, later articles of more permanent value and utility; second, we should seek in their homes, in the school, and in the community problems of interest and value which may be worked out either individually or by groups of boys; third, we should go to the industries for problems and methods which provide a source of valuable information and practice.

In the first group, in addition to kites and toys, wagons and bird houses, tables and work benches, we might include many of the activities required by the Boy Scout organization, which would thus be brought into closer contact with the public schools.

In the second group we find innumerable small jobs which can and ought to be done by boys. Much of the resourcefulness attributed to boys raised on a farm is due to the great variety of demands which are made upon them. Modern homes of the most modest type provide many opportunities for hand work which should be encouraged and directed by the teacher of manual training, among such problems being the soldering of leaking utensils, replacing of broken window glass, repairs to water faucets, mending screen doors, replacing broken sash cords, and sharpening hatchets, knives, and scissors.

In the third group we should have work based largely on the practices of modern industry. Such work calls for some machinery, and where such is introduced, its use should follow quite closely the practices in commercial shops. Whether the classes are organized to study particular trades or to center their activities on some project involving several trades, care should be exercised lest careless methods be employed and poor and slovenly work result. Equipment for the school plant when a number of similar articles are needed falls readily into this group. It may well lead to a division

of labor and repetition of processes to the extent of acquiring considerable skill, but contrary to the tendency in industry, specialization should not be carried so far as to lose its educational value; instead of training boys for one job only, they should be rotated from job to job in order that they may gain an all-round training. There is danger in such work of merely producing a quantity of marketable material and neglecting the teaching processes, but properly handled it offers superior advantages for real constructive teaching.

### LIBRARY.

Steps should be taken as early as practicable to provide, for the use of both teachers and pupils, a carefully selected library of the best current literature in the fields of the manual arts, vocational guidance, and vocational education. Some of the important items should be duplicated, and supplied to all shops or classrooms where their use is appropriate. In addition there should be a small collection in each school building, and a more comprehensive reference library located, perhaps, at the Vocational High School. An initial appropriation of $500 and an annual appropriation of $100 are suggested.

## 2. VOCATIONAL EDUCATION.

Memphis has made an excellent start on a plan for vocational education in the reorganized Crockett Vocational School. On July 10, 1911, the board of education authorized the organization of the Memphis Vocational Grammar and High School, and the school was opened in the old high-school building on September 18, 1911.

From an enrollment in 1911–12 of 188, the school grew to 469 in 1915–16. Although an effort appears to have been made by those in charge to develop a vocational school of high grade, lack of adequate financial support, and the influence of the traditional school curriculum and ideals combined to prevent the full realization of this aim.

In the fall of 1917 the State board of education authorized the establishment of a number of unit trade courses under the provision of the Federal Vocational Education act. The name was changed to the Crockett Vocational School.

In 1918–19 the school offered five unit trade courses, two years in length, under the terms of the Smith-Hughes law, as follows: Architecture, carpentry, commercial design, home economics, printing. In these courses 99 students were enrolled in the second half year, as shown in the table hereafter.

To be eligible for admission to these courses, pupils are expected to have completed the equivalent of the work of the sixth grade of the elementary school, to be no less than 14 years of age, and to satisfy the instructor of their ability to profit by the work of the course

chosen. The requirements of the Smith-Hughes law are followed with respect to hours and division of time, subjects of study, qualifications of instructors, etc.

These requirements provide for a 6-hour day, 5 days per week; 50 per cent of the time, or 15 hours per week, is devoted to practical shopwork in each course; of the remainder, 9 to 10 hours per week are devoted to the mathematics, science, and drawing related to the trade in question, and 5 to 6 hours per week are assigned to nonvocational subjects.

The school also offers a four-year "vocational course," based on graduation from the sixth grade, thus paralleling the seventh and eighth years of the elementary school and the first two years of the high school. The number of students enrolled in this course in the second term, 1918–19, was 515, of whom 7 were taking a fifth year's work.

The vocational course differs from the work of the other schools in the substitution of a certain amount of shopwork and drawing for portions of the regular course of study. Before this school can accomplish the objects for which it was established, however, it must be relieved of the necessity of attempting to offer vocational courses based on the ascertained needs of young persons and at the same time to meet traditional high-school entrance requirements.

The Crockett Vocational School also offers a number of evening courses during the winter. None of these was in session at the time of the survey, and limitations of time prevented a thorough study of this problem.

## ENROLLMENT.

According to the report prepared by the principal for the survey commission, the enrollment figures for the day classes of the Crockett Vocational School for the second term, 1918–19, are as follows:

| | Boys. | Girls. | Total. |
|---|---|---|---|
| Regular day classes: | | | |
| Grade 7-1 | 44 | 47 | 91 |
| 7-2 | 34 | 39 | 73 |
| 8-1 | 46 | 47 | 93 |
| 8-2 | 22 | 24 | 46 |
| 9-1 | 33 | 73 | 106 |
| 9-2 | 10 | 29 | 39 |
| 10-1 | 10 | 34 | 44 |
| 10-2 | 8 | 9 | 17 |
| 11-1 | 0 | 7 | 7 |
| Total | 206 | 309 | 515 |

| | Boys. | Girls. | Total. |
|---|---|---|---|
| Smith-Hughes trade classes: | | | |
| Architecture | 39 | 0 | 39 |
| Carpentry | 18 | 0 | 18 |
| Commercial design | 7 | 1 | 8 |
| Home economics | 0 | 24 | 24 |
| Printing | 10 | 0 | 10 |
| Total | 74 | 25 | 99 |
| Summary: | | | |
| Regular day classes | 206 | 309 | 514 |
| Trade classes | 74 | 25 | 99 |
| Total | 280 | 334 | 614 |

## PROPOSED PROGRAM FOR THE VOCATIONAL HIGH SCHOOL.

A comprehensive program of vocational education should be formulated for the Memphis school system, centering in the Crockett

Vocational School. This program should provide for four main lines of effort:

(1) Prevocational classes for pupils who have completed the equivalent of six years work in the elementary school, or who, without completing the sixth grade work, have attained the age and maturity which enable them to profit by the special work offered. The course of study should include a variety of practical work in shopwork and drawing, and should aim definitely to assist boys and girls to study their own capacities and talents and the opportunities open to them, and on the basis of such study and the experience afforded in the school to make intelligent choices of their future vocation.

(2) Unit trade classes, carrying out the provisions of the Smith-Hughes law. These are designated primarily for boys and girls 14 years of age or over, who have definitely selected the trades for which they wish to prepare, and who are able to devote two years to such preparation.

(3) Part-time classes, designed especially for young persons who are employed, and who can give only a limited amount of time to further schooling. A considerable range of opportunities should be provided, including a continuation of general education as well as special technical and vocational subjects. Classes should be of two main divisions: (*a*) Day continuation classes, for employed persons who attend school one or more periods for a total of four to eight hours per week; (*b*) cooperative day classes, for employed persons working in pairs, each individual working and attending school in alternate periods.

(4) Evening classes, for employed persons 18 years of age and over.

## PREVOCATIONAL CLASSES.

The largest contribution which the Crockett Vocational School can make to the education of the youth of Memphis is through the day classes designed to serve a prevocational purpose.

The necessity of providing vocational guidance and direction for children who are likely to leave school before the completion of the high-school course, and thus to face at a very early age the demands of industrial and commercial life, is coming to be generally recognized. For many years it has been evident that the public school offers more definite and more effective service to the boy or girl who can use this schooling as a stepping-stone to further training in college or university than it does to the one who must make the best of it as preparation for a life career without the higher aid. There are many more boys and girls of high-school age who are not in school than there are in school, and the first and most obvious task

of a program of vocational education is to study and meet the needs of these thousands of children who are not satisfied with the instruction which the schools now offer.

It is not possible to determine which children will continue through high school, for, when questioned, many children and their parents will make declaration of intentions which are subsequently not realized. An effective plan of prevocational classes will assist many of those whose plans for the future are unsettled to see the advantages of further schooling, and especially schooling which aims at preparation for definite life careers.

These classes are designed primarily for children of about 12 to 16 years of age, and should have a threefold aim: (1) To promote a better understanding by each individual of his own abilities and qualifications; (2) to promote a better understanding of the meaning of a life career, and of the available opportunities and means of earning a living; and (3) to encourage the best possible use of individual abilities and available opportunities. When work with these objects in view is undertaken in a more or less formal way as a classroom study and through individual conferences between teacher and pupil, with or without visits to commercial and industrial plants and individual studies and researches, it is referred to as "vocational guidance."

When the studies in vocations are developed to the extent of providing special equipment, so that the student may participate in practical shop and laboratory activities on real projects selected from a number of typical or fundamental vocations, with sufficient time assigned to the practical work, it is believed that the pupil may be able to form for himself an intelligent relative estimate of his fitness for the various types of vocations in which he thus engages, as the basis for the choice of a life career. To such special school or class has been given the title of "prevocational school" or "prevocational class."

The prefix "pre-" implies a special kind of training that precedes vocational training, and hence is not itself vocational. It is designed for the young person who has not yet made a choice of vocation, or a choice among several opportunities for vocational education that are offered, and who is presumed to receive therefrom definite assistance in the making of such choices.

The latter part of the term, "vocational," implies a considerable variety of activities and a broad outlook into possible future careers. There should be included something corresponding to the introductory phases of each of the main subjects of vocational education (professional, agricultural, commercial, industrial, and homemaking), the opportunity to enter upon a definite vocational course in

some one of which presumably would be open as soon as a choice can be made.

## BASIS OF SELECTION.

The activities to be emphasized in the prevocational classes should be broadly typical of occupations which are of greatest significance in Memphis and the surrounding territory. To afford a basis in fact, for this selection, a preliminary study was made of commercial, industrial, and social conditions in Memphis, discussed in Section I of this report. From observations made in the limited time available, it is suggested that the following lines of prevocational work should be introduced: For boys—agriculture, printing, sheet metal, carpentry, cabinetmaking, automobile work, electrical work, mechanical and architectual drafting, salesmanship, business organization and methods; for girls—commercial subjects, salesmanship, and business methods; cooking, sewing, and homemaking.

In the following pages is presented an outline of a plan for prevocational classes for boys. It is understood that the complete plan will make corresponding and adequate provision for girls.

## ESSENTIAL FEATURES.

Experience in other school systems has shown that certain features are essential to success in the conduct of prevocational classes:

1. At least one-half of the time in school should be devoted to the various lines of practical activity. Sufficient time must be allowed to accomplish definite results in each occupational field. A six-hour school day, with two sessions of three hours each, has found favor in a number of places.

2. One-half the time should be given to related work in language, mathematics, elementary science, industrial geography, industrial history, and, in general, to preparation for intelligent understanding of and active participation in civic and social responsibilities.

3. The work should be offered, in the beginning at least, on an elective basis, but all boys and girls who are likely to profit by the instruction should be encouraged to take it. This department should be maintained on the same basis of dignified and serious endeavor as any other, and should not be considered as a special provision for incorrigibles or for pupils physically or mentally backward.

4. As already indicated, there must be variety in the practical activities undertaken in order to give insight into a number of typical vocational fields.

5. Teachers should be chosen who have had sufficient experience in the occupations represented in the course of study to relate the instruction to actual conditions in the industrial and commercial world. The closest relationship should be maintained also between the shopwork and the related work. The success of prevocational work is dependent in large degree upon the teacher's power to hold and interest the pupils and upon his qualities of adaptability, originality, initiative, and keen interest in the successful handling of the problem.

6. There should not be less than one year, and preferably two years (the seventh and eighth), during which the pupil engages in several typical lines

of shopwork or laboratory work successively, followed by a period of one year or more in which he may specialize in a chosen line.

7. The pupils should be grouped in sections of not to exceed 15 to 18 each in order to permit a degree of individual instruction.

## UNIT TRADE CLASSES.

The special trade classes organized under the provisions of the Smith-Hughes vocational education law should be continued. Other courses should be added from time to time in response to evident demand. So far as members of the survey commission could determine, however, these day trade courses are not likely to be the most important feature of the program for vocational education in Memphis.

Since the nature of the courses and the conditions under which they are given are clearly defined in the publications of the Federal Board for Vocational Education, it is unnecessary to discuss them in detail in this report.

## PART-TIME CLASSES.

The special classes here referred to are intended primarily to appeal to boys and girls who have left school to go to work, and should be made a most important feature of the plan for vocational education in Memphis.

(*a*) Day continuation classes of many kinds should be organized to meet the needs of boys and girls who are employed and who can not be induced to reenter school on full time. Short courses, a few weeks or months in length, should deal with the specific problems of certain selected occupations. Others should deal with selected topics from the field of general education. Still others should deal with such special topics as health, recreation, civics, and citizenship.

The class sessions should be from two to four hours in length, and there should be one or two sessions weekly, scheduled during regular working hours. The physical strain involved in regular attendance upon evening classes following daily work is a very serious handicap on boys and girls not yet fully developed. In general, it is believed that youth under 18 years of age should not be subjected to this strain and that admission to evening classes should be limited to those who are 18 years of age or older.

In a number of States legislation has been enacted requiring employed workers of certain groups under 18 years of age to attend continuation classes for a prescribed number of hours on the employers' time. Among these States are Wisconsin, Pennsylvania, and New York. It is recommended that similar legislation be sought in Tennessee, and that in the meantime Memphis address itself to the solution of this problem for her own children without delay.

(*b*) Cooperative part-time classes should be organized in those industries and commercial occupations providing the proper conditions.

The essential features of the cooperative class include:

(1) A definite arrangement by and between the school and one or more industrial plants, in accordance with which the theoretical instruction is given by the school and the practical experience is given by the industries, and both are coordinated in a systematic and progressive educational program.

(2) Willingness on the part of the industrial plant to make such adjustments in equipment and processes and methods as are necessary for promotion of the educational aims.

(3) Willingness on the part of the school to eliminate nonessentials and to base theoretical instruction on actual practice and sufficient skill in organization to administer the plan successfully.

(4) Careful selection of employees, instructors, and student workers who are capable of being inspired with a vision of the responsibilities as well as the possibilities of the plan.

(5) Administration of the devices of alternating periods in such a way as to secure continuous and progressive action on the process or job in the factory as well as in the work of the student and the instructor in the school.

In brief, the plan provides that the students in any class shall be divided into two groups, one group being in school while the other is at work. At the end of each period (one week or two weeks) the groups exchange places and thus alternate between school attendance and wage-earning employment. The student-workers are arranged in pairs, so that the work in the place of employment is kept going continuously.

In considering the advantages of the cooperative plan in the Crockett Vocational School it is necessary to recognize that the first appeal is made to boys and girls not now in school—to those who, because of economic necessity or indifference, have left school to go to work or to loaf. In the next place, a strong appeal is made to many boys and girls who are in school at the cost of much real sacrifice and self-denial. If some way could be found to meet a part of the cost, they can and will remain in school.

Again, some lessons can be learned only through practical experience in the ways of the world. Some of these include the proper relations between the material and spiritual phases of life, the meaning and value of money, the meaning of work and wages and the relation between them and the importance of life motives. The learning of these lessons is of as much consequence to one individual as to another, irrespective of economic, intellectual, or social status.

The cooperative plan is a contribution to the solution of some of the problems involved, and hence its advantages should be placed within the reach of all youth.

With these conditions in mind, the special advantages of the cooperative plan may be summarized as follows:

(1) The safeguards thrown about the young people in their places of employment through the supervision exercised by the school and the cooperation of employers show an almost unbelievable improvement over the conditions hitherto characterizing the employment of minors in many places.

(2) The cooperative plan makes it possible for some boys and girls to continue in school, because of wages earned on half time. Prolonging the period of active connection with the school and of contact with sympathetic teachers and advisers confers an incalculable benefit on growing boys and girls and should lead to a permanent impetus to better things.

(3) The plan would doubtless induce some to remain in school, because the school work is thus made more interesting and the student can see a more direct relation between schooling and the promotion of his own interests.

(4) The experiences involved promote a more earnest and thoughtful attitude toward work and the responsibilities of life.

(5) The plan discourages idleness and unwholesome use of time, since the longer school day and year are fully occupied with interesting activities.

(6) The opportunity to engage in gainful employment of half time, under suitable auspices, has a definite prevocational value, assisting young persons to discover their tastes and probable aptitudes.

(7) The successful operation of a cooperative school or class affords a convincing demonstration that a reasonable amount of work, under proper conditions, can be made to contribute definitely to the development of youth instead of being, as frequently heretofore, a demoralizing, disheartening, and stunting influence.

(8) The plan gives the student, at the very least, a foothold in some industry or occupation, so that he does not feel lost when the time comes to leave school and take up the responsibilities of self-support.

(9) It should be emphasized that this plan does not neglect the need for general education, but insures to each individual an amount of cultural and liberalizing education sufficient to serve as a foundation for further study, if he finds it possible to continue his education; he certainly gets more of the cultural side of education than he would if he had left school entirely to go to work.

Inquiries made by the survey commission proceeded far enough to indicate that a proposal to organize cooperative classes would be favorably received in several industries in Memphis. Conditions are especially propitious in the printing industry, and one or more cooperative classes can be organized with a minimum of effort and expense.

### EVENING CLASSES.

A considerable variety of evening classes for employed workers 18 years of age and over should be offered not only in the Crockett Vocational School but in other schools as well in different sections of the city. The importance of evening classes in Memphis has been recognized for some time. Increased facilities and a more aggressive policy, however, are necessary in order to meet the needs of the situation.

### VOCATIONAL SCHOOL FOR NEGROES.

The plan for vocational education in the Memphis schools would not be complete until adequate provision is made for a vocational school for Negroes. This school should be well equipped and adequately supported and should include the following features:

(*a*) Prevocational classes for those who have completed the work of the sixth grade or who have reached the age of 12 years.

(*b*) Day trade classes meeting the requirements of the Smith-Hughes vocational education law.

(*c*) Part-time classes.

(*d*) Evening industrial and general continuation classes.

## 3. HOME ECONOMICS.

The teaching of home economics in the public schools has long since ceased to be an experiment. To-day courses that cover the full round of duties in the home are being offered. These are being presented according to well-worked out plans that take into consideration the age and experience of the pupils that they may become adjusted to their daily life in the home and acquire a knowledge of their future responsibilities and of the means of meeting them. Changing industrial and social conditions have been making such education more and more necessary. To-day the majority of home makers need to have not only administrative ability in household management but also skill in the performance of household tasks, because domestic help has grown more scarce through competition with the industries in which higher pay and shorter hours have been offered. This has been true particularly in the South, where the homes have been deprived of the abundance of household help to which they have been accustomed to a marked degree, and where the

help that can be secured has grown less efficient and responsible. Home-makers are coming to find that personal knowledge of the household arts adds much to their comfort and independence. On the other hand, educators realize that improved home conditions for all classes of people will be a vital factor in national progress, and that the best means of reaching the homes is through the children while in school. Thus a great responsibility rests upon the schools, a responsibility that they are only gradually learning to meet.

Some phases of home economics education have been presented in the Memphis public schools for the past 10 years. Courses in cooking and sewing have been offered as elective to all the girls in the Vocational High School throughout that time. A special home economics curriculum is offered at Central High School, and courses in that curriculum are offered as selective to girls specializing in other lines. At one time courses in sewing were given in the seventh and eighth grades throughout the city, but these courses were taught by untrained teachers and for some reason were not continued. This year courses in both cooking and sewing have been offered to the girls of the seventh and eighth grades of the Rozelle elementary school. In the colored schools courses are given to all the girls above the sixth grade. The equipment installed at the Kortrecht (Colored) High School a good many years ago has made it possible to require the work of the girls of the seventh, eighth, ninth, tenth, and eleventh grades attending that school and equipment more recently installed in the Grant School, where all the other colored children of the seventh and eighth grades of the city are brought together, has been the occasion for extending that requirement to all the girls of those grades. All of these courses have been independently developed, and no scheme for home economics education has yet been worked out in the city system.

## THE CENTRAL HIGH SCHOOL.

In the special home economics curriculum adopted in the Central High School in 1917, cooking and sewing (and millinery) are alternated as a major throughout the four years. They are also offered as electives in the elective course. A good equipment has been provided for the courses, and large numbers of girls elect the full curriculum, while the separate courses are probably as popular as the busy high-school program makes possible. Though a well-rounded course in home economics has not been worked out, conscientious teachers have done excellent work, and good results have been obtained. This is particularly true in the sewing courses, in which the girls have received such thorough training from the simple garment making to the more advanced courses in dressmaking and millinery that they

have achieved a power that renders them capable of independent work in this household art. Less opportunity for acquisition of power is offered in the cooking courses, and changes in the teaching staff have interferred with the permanency of courses that have been worked out. The courses as they now exist seem to lack progressive development and to put greater emphasis on the practical phases of home economics than on the underlying scientific and economic principles. The alternating classes in sewing and cooking (one week sewing, the following week cooking) may be feasible during the first and second year before the problems become such as to require intensive study, but during the last two years it would seem well to have differentiated courses running continuously through a term. The system of giving the courses in sewing and cooking on alternate days or throughout alternate weeks has the additional advantage during the freshman and sophomore years of giving all the girls opportunity of having had some work in each line at whatever period it may be necessary for them to leave school.

The hours of the teachers at Central High School are entirely filled with teaching. They have classes through the six regular recitation periods and an additional lesson after the regular session is over for students who are eager to elect a short course in home economics or for classes in Red Cross work. Those teachers who have two noon periods are appointed to assist in checking sales in the lunch room. Thus every minute of the teacher's time in school is occupied with class or other required duties and no free time is allowed for the equally necessary conferences with individual pupils for marketing, shopping, or other essential preparation for laboratory lessons. The teachers are too crowded in their schedule to give the proper attention to the organization and development of their courses, though they are doing much for the individual pupils.

The method of obtaining supplies for cooking is cumbersome and unsatisfactory and deprives the teacher of the opportunity to give practical lessons in marketing that are so necessary. Orders must be presented to the director of the lunch room and goods delivered from him to the cooking schools. Since orders must be put in several days in advance, and there is no established and regular time of delivery from the lunch room to the cooking school, the element of uncertainty and delay is a serious drawback to the system. Moreover, the limited type of cooking done for the school lunch does not always make it easy to secure the widely varied materials for which the cooking school calls, while the opportunity so dear to the housekeeper of securing supplies of fruits and vegetables when the season is at its prime and there is a sudden fall in prices is denied the cooking teacher.

## THE VOCATIONAL HIGH SCHOOL.

The courses in home economics at the Crockett Vocational High School are elective for any of the girls at any period of their course. As the Vocational High School is a junior high school, this means that girls of the seventh, eighth, ninth, and tenth grades may all elect the same courses and report at the same time. This results in the work being quite hopelessly ungraded. The lessons in sewing must be largely individual, while in the lessons in cooking the difference in the maturity of the girls makes it quite impossible to develop the food work adequately. An advance course in cooking, which is carried out in the lunch room, has to be conducted almost without supervision, as the cooking teacher is conducting another class at the same hour. The teacher is seriously overtaxed by this arrangement, for she conscientiously gives as much time as possible to the supervision of the lunch room. However, too much responsibility rests on the untrained workers and they are not deriving from the course the training to which they are entitled.

The introduction of a Smith-Hughes course in home economics at the Vocational High School this past winter has limited the opportunity of students to elect this course, since two of the three teachers are now devoting three-fourths of their time to the Smith-Hughes classes and the third teacher devotes one-half of her time to Smith-Hughes classes. Twenty-five have been enrolled in these classes since the beginning of the term. Each of these teachers has only one class in home economics open to other students. Only 50 girls have been entered in home economics classes this term, as against 125 during the term prior to the introduction of home economics. The majority of the girls in the Vocational High School desire to major in some subjects which will enable them to earn a livelihood immediately upon leaving school; hence they flock into the commercial classes. This makes it impossible for them to elect anything but the brief courses in home economics.

For many years continuation classes in both cooking and sewing have been offered at the Vocational High School. These classes have been held during the latter part of the afternoon or the early evening. At present funds are being secured from the Federal Board for Vocational Education for the maintenance of these classes.

The ungraded character of the work at the Vocational High School is a serious detriment to its development. The teachers are badly crowded for time, particularly the teacher of cooking. While the equipment is fair, it is crowded into rooms that are entirely too small for comfortable accommodation of classes and is far from being all that the equipment in a modern vocational school should be. The space allotted to the lunch room is inadequate, dark, and insanitary,

not a fit place in which to ask girls to work several hours a day. It is well to make the lunch room a laboratory for class work in so far as possible, but the work has no educational value unless carefully planned and properly supervised, and this has not been possible under conditions that have existed in the Vocational High School.

The majority of the girls marry within a very few years after leaving school, and even before that time most of them have the responsibility of the choice of food and of clothing for themselves and others, therefore they should all have opportunity for short courses in home making while in the high school.

## THE ROZELLE SCHOOL.

The sewing and cooking courses in the Rozelle Elementary School exist independently of the established school system, and represent in a sense an experiment for the grammar grades. The courses are elective to the girls of these grades, 50 per cent of the girls electing the work this first year. No credit is given for the work, and the teacher devotes only a small portion of her time to the subject. Should the lessons be required of all girls in the seventh and eighth grades and regular credit be granted for it, the course would quickly take its place as a regular subject in the curriculum. Good rooms have been provided for the lessons and a minimum equipment has been installed. This will need increasing from time to time as classes increase in size and new classes are added.

Through the efforts of the city home demonstration agent a class in cookery for seventh and eighth grade girls has been conducted at the Guthrie Elementary School. The equipment installed by the parent-teachers' association for school lunches has made this possible. The popularity of the class with the girls affords the best sort of argument that the time is ripe for the introduction of the work into the seventh and eighth grades as a permanent course.

## THE KORTRECHT HIGH SCHOOL (COLORED).

The equipment at the Kortrecht High School may have been adequate at the time of its installation, but it shows the wear and tear of many years of use, with practically no signs of renewal and no up-to-date additions and improvements. Desks are only partially equipped; there are no cases for sewing supplies; one gas range is so badly out of repair it can not be used; there is no means of heating water; and the walls and ceilings are dirty and unsightly. Class periods are only 60 minutes in length, frequently less. Laboratory classes are exceedingly large and two teachers are required to look after one class. In spite of these conditions the girls show a commendable spirit of industry and the teachers an enthusiasm and

faithfulness that merits better tools for their work. The work is in the charge of a supervisor of considerable training and experience, but the other teachers have had no training beyond their own high-school work, and much of the time act merely as assistants to the supervisor. Better results would be obtained if teachers with more educational training were secured by the payment of larger salaries and every teacher held responsible for a definite portion of the work. If classes were a little smaller, each teacher could handle a division independently and a higher grade of work could be accomplished. Difficulty in obtaining supplies because of the necessity of an order going through several hands and the uncertainty resulting therefrom is a serious handicap, particularly to the cooking classes.

## THE GRANT SCHOOL (COLORED).

In the Grant Elementary School for colored children a good cooking equipment has been installed and a minimum equipment for sewing is provided. The room fitted up for cooking is satisfactory, but arrangements for sewing in one corner of that room are most inadequate. A simple diningroom equipment is partitioned off at one side of the room. Were a similar arrangement made for a bedroom and a sitting room, the complete round of household duties could be taught. A larger room should be provided for the sewing classes, and it should be amply provided with lockers, cases for exhibits, and cutting tables. The low standard of class conduct prevailing in this school would in large measure be corrected by thus providing separate rooms for classes.

## RECOMMENDATIONS FOR WORK IN HOME ECONOMICS.

1. *A city supervisor of home economics.*—Whatever the policy of home-economics teaching agreed upon, it is of great importance that a city supervisor of home economics be appointed, that all the courses may be properly planned and articulated, all expenditures wisely made, and that teachers be well qualified and correctly assigned. The city supervisor should be a woman of broad home-economics experience, whose educational training has been thorough and whose teaching has been sufficiently varied to enable her to understand the problems that confront both the elementary and secondary teacher. She should be a woman of recognized administrative ability, with tactful personality and force of character, so that in dealing with other trained teachers she will readily be recognized as guide and counselor. In addition to the planning and supervising of the courses, she should be intrusted with the purchase of equipment, the planning of rooms, the framing of the financial budget for

the department, and the choice of teachers. It will be necessary to pay the supervisor a salary that is in itself a recognition of her abilities.

2. *The home-economics program.*—In view of present industrial and social conditions, it is exceedingly important that all girls be given an opportunity to study home making. In the ideal school system, such training should begin in the fifth grade. Hand training may well be given in the lower grades, but the industrial work for girls should be definitely planned for home making from the fifth grade. Courses in cooking, sewing, and housewifery should continue throughout the fifth, sixth, seventh, and eighth grades. If cooking is taught in the fifth and eighth grades, and sewing in the sixth and seventh, there will be opportunity to reach most of those children who leave school at the age of 14 and to give them some training in sanitary habits and thrifty ways that will be of value to them throughout their future life. In the fifth and sixth grades, two 90-minute periods a week should be devoted to the lessons in home making. In the seventh and eighth grades three or four 90-minute periods can be advantageously devoted to the course. Should it not be possible to provide a sufficient number of school kitchens, sewing machines, and home economics teachers for all the fifth and sixth grades of the city, it would be well to introduce the courses in all the seventh and eighth grades and to add the work in the fifth and sixth grades just as soon as the finances of the city permit. Should junior high schools be developed, cooking and sewing laboratories can be provided in them for the seventh, eighth, and ninth grades. The work should be required in the seventh, eighth, and ninth grades. In order to carry out this plan successfully in the Vocational High Schools, a sufficient number of teachers must be provided so that classes can be arranged for beginners and for those who are to take intermediate and advanced work. This will also necessitate additional laboratory space. The larger number of girls thus provided for and the better work made possible will amply compensate the city for this increased expenditure.

In the four-year high school an elective course in home economics should be offered all girls during the first and second years. This should include cooking and sewing, together with the theoretical study of foods and textiles, that the girl of this age can now grasp. A special four-year home economics curriculum leading to a home economics diploma should be offered in high school for those girls who desire a broad and thorough training in home making. This curriculum should include the general subjects that form a basic part of all education, as well as the sciences and social studies specially related to home making.

The four-year home economics course for high schools should be built up on the elementary work in home economics offered in the grades and should be strengthened by the biological, chemical, and social sciences. Foods and cookery and clothing and textiles should be offered during the first two years of high school as full credit courses with the equivalent of daily recitations or double periods of laboratory practice. The method of arranging these courses should be determined by the supervisor. Civic biology should be given during the first year, general geography during the second year. Drawing, color, and design should run through both the freshman and the sophomore years. Thus a good basic course that can be elected by all girls in the high school, even though they are not following the home economics curriculum, will be offered.

The foods and cookery offered during these first years should cover all of the general science of cookery and the elementary knowledge of nutrition. At the close of the course the girls should be familiar with all the ordinary cooking processes and with the use of foods in the body. They should be able to choose, combine, prepare, and serve food to the family with a minimum expenditure of money and time and a maximum of health and bodily efficiency for the family.

In the same way the courses in sewing and textiles should acquaint the girls with the choice and purchase of textiles for all household and family purposes, and the preparation of all household fittings and garments for all members of the family.

These courses in the household arts in high school will differ from those in the grades in the development of the underlying principles and the measures of responsibility placed upon the girls. A greater degree of skill in handwork will be possible, and a wider diversity of projects will be offered together with experimentation and practice.

During the junior year of high school, dressmaking and millinery will be given, with costume design and interior decoration running parallel to these courses in the art department. Those weeks most suitable to the presentation of the millinery lessons should be made of use that the methods employed in the different seasons may be taught, and the remainder of the year should be devoted to dressmaking. Double periods daily will be necessary for this work and full credit should be granted. Chemistry should be given in the junior year as a preparation for the more advanced course in nutrition to be given in the senior year. A well-developed course in household chemistry will best meet the needs of the high-school student, and such a course should be carefully worked out.

During the senior year the maturity of the girls makes possible an intelligent handling of the problems of household management and the further development of many phases of the subject that have already been treated during the cooking courses. This year's course

should include a study of the family budget, the method of keeping household accounts, housewifery, laundry work, and domestic service. The course in household chemistry offered during the previous year should be followed by a course in dietectics, the care and feeding of children, and nursing and first aid. The interrelation of these courses should be worked out by the supervisor, and they should be scheduled to the best possible advantage.

Courses in English are desirable during the four years of high school; however, the last two years of English may be elective with the possible alternates of modern and American history. All the other courses in the home-economics curriculum should be required and should be credit courses necessary in securing the degree.

In the Negro schools provision is already made for giving lessons in home making to the girls in the seventh and eighth grades and through three years of high school. As soon as possible this work should be extended down into the fifth and sixth grades; and a full four-year high-school curriculum similar to the home economics curriculum that is to be developed in Central High School should be provided for.

3. *The course of study.*—As the home-economics program is developed in the city of Memphis, the special needs of the girls in the various parts of the city must be considered and the course of study must be framed to meet these needs. A fairly definite course can be outlined, but the supervisor may need to modify this for the different schools. Such modification will be necessary for the negro schools, especially if the girls continue to leave school at an early age and do not return to take advantage of the high-school courses. While there is at present no great foreign element to be considered the possible presence of such an element in the city at some future time will mean other modifications of the course to meet their needs.

4. *Certification of teachers.*—Though State and city laws may exist for the certification of teachers, additional provisions to safeguard the standard of home-economics teaching in the city schools should be made. The grade teachers should have had at least two years' special home-economics training in normal school and two years' special home-economics teaching. The high-school teachers of home economics should have had the equivalent of a four years' home-economics course (two years of the course may have been taken in normal school) and should have a bachelor's degree in science. They should also have had two years' experience in special home-economics teaching.

5. *Salaries.*—The salaries paid home-economics teachers should be a recognition of their training and experience. A minimum salary equivalent to the minimum salary of grade teachers should be paid those teaching in the grades, and this should increase from year to

year. In high school the salary should be equal to that paid other special teachers with a maximum sufficient to encourage devoted work, continued study, and a prolonged tenure of office.

6. *The home-economics budget.*—A home-economics budget sufficient to provide for the new courses to be offered from year to year, and to pay for all necessary running expenses of the department, should be worked out by the home-economics supervisor and should form the basis for the provision of moneys for all expenditures. Expenses will include teachers' salaries, the purchase of new equipment and the repair of old, the supply of materials for cooking and sewing, and the preparation of printed or typewritten courses of study and other expenses incurred in administration of the courses.

7. *Type of equipment.*—A standard type of equipment should be provided in each one of the schools in which courses are to be introduced and should be kept in first-class condition by the necessary replacement and repair from year to year. Teachers should not be required to make shift with something that demands extra exertion to use, nor should students be robbed of the benefit of work with up-to-date equipment. Good classroom space that makes possible sanitary care should be provided. Desks and tables should be of correct height and size; cupboards and supply rooms should be provided. Rooms should be well lighted and completely screened.

8. *The lesson period.*—Lesson periods of from 90 to 120 minutes should be allowed for all laboratory classes. It is fruitless to endeavor to have five cooking lessons in 40 or 45 minutes, because bad habits of work will be formed and the teacher will find it possible to give only very superficial supervision. It is possible to form school programs for double periods if schedules are skillfully adjusted.

9. *Size of classes.*—A teacher should not be asked to have classes larger than 20. If the grades are larger, they should report in divisions ranging in size from 16 to 20 for cooking and sewing.

10. *A practice cottage.*—As the home-economics courses are developed it will be desirable to secure practice cottages or housekeeping apartments in which all the duties of the home can be worked out. These housekeeping apartments should be planned for in the new buildings as a part of the home-economics department.

11. *Use of product of sewing and cooking classes.*—In addition to the personal sewing which the girls are always ready to do, they should be encouraged to sew for others, that many types of garments to suit differing needs and tastes may be made. Teachers may have opportunity to introduce work for the Red Cross and other agencies that will add a new element of interest. In the cooking classes an outlet for the use of the product should be sought whenever possible. This is especially desirable in the high-school classes, where the development of personal responsibility is most necessary.

## 4. SCHOOL GARDENING.

In making a complete study of the education of a child for life it is as necessary to know his activities and environments when not in school as to study the school plant, equipment, and methods of teaching. This study has been undertaken to show how much of the time of the child in the upper grammar grades of the school is not directed by the schools; how much of this time is now utilized profitably; the relation of idleness to the juvenile court; and the possibilities of school-directed educative projects that will be of benefit in the making of the future citizen.

### TIME IN SCHOOL.

The Memphis city schools were in session 172 days during the school year 1917–18. Excluding Sundays, there are, therefore, 141 days when the child is not receiving instruction in regular school sessions. No regular vacation school was conducted last year, nor is one contemplated during this summer vacation. The school day for white children of the upper grades is five hours in length, and the children are dismissed in practically all cases at 2.30 p. m. The daily session for colored children is also five hours in length, but the sessions begin one-half hour later in the morning, and all schools are dismissed at 3 p. m. Continuation classes or playground activities are not conducted by the schools after the regular school hours or during the summer vacation. Children of the city of Memphis must, therefore, look to other agencies than the schools for education, occupations, and play during 141 week days of the year and for 5 or 6 hours of each school day.

The playgrounds of the city are conducted as a municipal activity under the direction of the recreation commission. In this work organized games and free play activities are offered, but little attempt has been made to correlate the activities of this division with educational or occupational activities of children.

These industrial subjects are not completely organized in the regular school course, as shown by other chapters of this report. In the few grammar schools where manual work and domestic science have been introduced the equipment is not used after-school hours or in vacation.

In the class instruction the regular academic studies are not largely vitalized by field excursion or nature study material brought to the classroom. A few of the teachers report field trips and laboratory work in nature study, geography, and biological sciences, but this work is left largely to the individual teacher.

## MEMPHIS A PIONEER IN SCHOOL GARDENING.

Several years ago Memphis organized a rather ambitious plan for garden work in the public schools. It may be said that Memphis is one of the pioneers in this work, as this beginning was made at a time when the educational value and need for this work was not as well understood and approved by educators as it is to-day. The superintendent who initiated this work resigned and the work was dropped. Only spasmodic attempts have been made to revive this activity until the past season, although work with adults has been conducted by the Farm Bureau. Through the efforts of the city schools, the parent-teachers association, the Farm Bureau, and the United States School Garden Army of the National Bureau of Education a plan of instructing many school children in home gardening was inaugurated last spring. About 3,800 children were enrolled in the United States School Garden Army and the garden expert of the Farm Bureau was made supervisor of the Garden Army work. Teachers volunteered their services and rendered efficient aid until the closing of the school year. No money was furnished for employing teachers during the summer, and much of the educational and occupational value of the work will be lost through inadequate supervision. In order to keep up the enthusiasm and furnish the educational value of gardening to children, they must be visited and garden instruction given often. It is impossible for one person to visit and instruct 3,800 children in gardening, and some of the value of this work has been lost through this lack of adequate-paid supervision. Under war conditions, volunteer supervision has been effective but in the long run it has proven unsatisfactory.

## ACTIVITIES OF CHILDREN DURING THE OUT-OF-SCHOOL HOURS.

In order to get information on the present out-of-school activities of Memphis children, a questionnaire was sent to the teachers of grammar grades 4 to 7, inclusive. Reports were received from 4,967 white and 1,805 colored children. The eighth grade is not generally considered a grammar-school grade in the South and was not included when the information was collected. As this grade is considered a part of the grammar school in Memphis, it should have been included. In other surveys the same general averages hold for this grade as for the others, except that the number employed, especially boys, is from 5 to 10 per cent larger.

Of the 6,772 white and colored pupils reported, 1,027 or 15 per cent are employed in money-earning occupations away from the home after school hours and 975 or 14 per cent in vacation. The types of employment of boys vary greatly, but paper boys, errand boys, and helpers in manufacturing plants predominate. The per cent of em-

ployment of girls is much less than that of boys. The number of girls employed is unusually small. Girls are employed in running errands and as helpers in homes or in the care of small children. The average earnings per week of these children is $2.08 per week during after school hours and $4.62 per week in vacation. The average amount of money earned per week is least for the colored girls. The amount of employment outside the home does not vary greatly in the different sections of the city, but in all cases the amount of employment is less in the more congested areas of the city. This fact is surprising since the amount of home work is also less in the same schools.

*Occupation of children in gainful pursuits outside the home.*

| Pupils. | Number reported. | After school | | | In vacations. | | |
|---|---|---|---|---|---|---|---|
| | | Number employed. | Per cent employed. | Average earnings per week. | Number employed. | Per cent employed. | Average earnings per week. |
| Girls (white) | 2,556 | 73 | 3 | $2.10 | 60 | 2 | $5.01 |
| Boys (white) | 2,411 | 641 | 27 | 2.36 | 604 | 25 | 5.19 |
| Girls (colored) | 1,154 | 48 | 4 | 1.63 | 90 | 8 | 3.60 |
| Boys (colored) | 651 | 265 | 41 | 2.25 | 221 | 34 | 4.68 |
| Total | 6,772 | 1,027 | 15 | 2.08 | 975 | 14 | 4.62 |

A much larger number of children have some duties at home than are employed in gainful occupation away from home. Sixty-three per cent of the 6,772 children reporting claim to have some regular home work. The number of hours of employment of these pupils is small, averaging only four hours per week for white children and about seven hours for colored children; 1,016 children are encouraged by receiving some pay for the work done at home. The amount of home employment decreases in the more congested section of the city.

*Occupation of children at home.*

| Pupils. | Number reported. | Number having regular home duties. | Per cent. | Average number of work hours per week. | Number who receive pay. | Percentage paid of those working. |
|---|---|---|---|---|---|---|
| Girls (white) | 2,556 | 1,481 | 58 | 4 | 360 | 24 |
| Boys (white) | 2,411 | 1,430 | 59 | 8 | 361 | 25 |
| Girls (colored) | 1,154 | 907 | 78 | 6½ | 208 | 23 |
| Boys (colored) | 651 | 450 | 67 | 7 | 87 | 19 |
| Total | 6,772 | 4,268 | 63 | 5½ | 1,016 | 21 |

When children are not in school or do not have definite occupation, the fact is always rather definitely recorded by the juvenile court

records. A report of the Juvenile Court of Memphis for the months of June to December, 1918, inclusive, is suggestive. During this time the court handled 548 cases; of this number 450, or 82 per cent, were delinquents. The fact that 75 per cent of these children were released for satisfactory conduct at the end of the probationary period shows that they are not vicious, but that many of the offenses grew out of the spirit of play. With the lack of occupation, as shown by the children's own reports, it is little wonder that pursuance of the play instincts leads to mischievous activities.

Under city conditions one of the activities for children that has educational and occupational value is home gardening, if this activity has definite direction. In order to determine the possibilities for this work in Memphis, statistics were collected on the number of gardens at the homes of school children, the number of children who have gardens of their own or help in the home garden, and the availability of space for gardening. Reports were received from 6,693 children, representing 6,469 homes. Of the number of children reporting, 2,946 lived in homes having a garden. As the number of children is greater than the number of homes, the same garden has been reported in a few cases by more than one child. The reports show that 1,902 children help with the work in the home garden, and 1,115 have a home-garden space of their own. In some cases the same children help with the general home garden and also have a garden plat of their own. This number of children doing garden work, while not as large as it should be, is commendable, and is undoubtedly due to the campaign for Garden Army enlistments. The total number of children who do some garden work in the grades studied is 3,017, which, with the enrollment of eighth-grade pupils, would give about the 3,800 Memphis children reported as enrolled in the United States School Garden Army.

*Statistics on home gardening.*

| Children. | Number reporting. | Number of homes represented. | Number children having gardens at home. | Number working in home gardens. | Number having own gardens. |
|---|---|---|---|---|---|
| White children | 4,967 | 4,805 | 2,283 | 1,383 | 806 |
| Colored children | 1,726 | 1,664 | 663 | 519 | 309 |
| Total | 6,693 | 6,469 | 2,946 | 1,902 | 1,115 |

## AVAILABLE SPACE FOR GARDENING.

With the exception of the business section along the river and the congested section near this district and along the railroads, the residential sections of Memphis are open and the building lots large. The available back yard garden space at the homes of the 1,460 white

children is 4,052,837 square feet, or an average plat of a little more than 50 by 55 feet for each child. A total home-garden space of 503,383 square feet is reported by 438 colored children, or an average plat per child of 25 by 45 feet. Taking both white and colored children into consideration, the 1,898 children report a total area of 104.6 acres.

*Availability of garden space as shown by measuring back yards.*

| Children. | Number of pupils measuring garden space. | Number living in apartments. | Average size of garden space. | Total size, in square feet. |
|---|---|---|---|---|
| White children | 1,460 | 567 | 50 by 55 | 4,052,837 |
| Colored children | 438 | 393 | 25 by 45 | 503,383 |
| Total | 1,898 | [1] 960 | ..... | 4,556,220 |

[1] Of total reporting, 6,772.

Aside from the use of gardening as a productive educational activity, there are some other agricultural pursuits that may be used to occupy the time of the children. Of the 6,693 children reporting, poultry is kept at 1,795 homes. Practically all of these homes are in the more open suburban or semisuburban sections of the city, and it is unfortunate that in these same sections the children have more occupation than is the case in the thickly populated sections. Pigeons are kept at 379 homes and rabbits at 405. It seems that in most cases pigeons and rabbits are kept as pets rather than for their economic importance as food. Where the possibility of keeping animals for their economical value is found, the care of poultry, pigeons, and rabbits furnishes a home activity for children from which much real knowledge can be gained.

*Other occupational activities of the home.*

| Children. | Number reporting. | Number owning poultry. | Number owning pigeons. | Number owning rabbits. |
|---|---|---|---|---|
| White children | 4,967 | 1,202 | 286 | 378 |
| Colored children | 1,726 | 593 | 93 | 27 |
| Total | 6,693 | 1,795 | 379 | 405 |

## COST OF VEGETABLE FOODS.

Under city conditions at present children are almost completely consumers. The boy on the farm, when he returns from school, has definite occupations that save the time of an adult and yet are often as skillfully done by the child. Country children are thus real earners in the home. Because city children have not been given the

opportunity to produce their share of the family expense, the economic burden has become so great that many have been compelled to leave school before the completion of the grade courses in order that they may become wage earners. If a plan could be worked out whereby these children could engage in occupations outside the home which had some educational value, as in the keeping of animals or the making of gardens, and still attend school, it is possible that the period of school attendance might be extended for several years.

It is very difficult to give an accurate estimate of the average expense of vegetables for a family of five for one year in the Memphis district. Standards of living vary so much that it would be necessary from a standpoint of accuracy to collect figures from a number of different sections. The estimates submitted by the teachers on the cost of vegetable foods for a family of five range from $57 to $395 per year. The majority of the estimates, however, range from $110 to $150, which is somewhere near the accurate average figure. If this item of family expense alone is considered, the child who can produce enough vegetable foods to supply the home will become of real economic importance to the home.

## TEACHERS' TRAINING.

In order to determine the possibility of school-directed home occupations, gardening and the care of small animals of economic importance, it is necessary to obtain statistics on training of teachers now in service to direct these home agricultural activities. A few of the teachers have taken agricultural courses at colleges and normal schools and are well qualified to direct these occupations in a practical way. Memphis is fortunate in having a State normal school, with a strong agricultural department, on the outskirts of the city, at which the teachers now in service in the Memphis schools could receive practical instruction. It is the chief duty of a State normal to supply elementary teachers. Since there is now a demand for a large number of teachers who are trained theoretically and practically in conducting home-garden work with children, the State Normal School at Memphis should become a leading influence in training such teachers for the western district of the State. The work at the normal school could be made more practical and also of distinct assistance to the garden work of the city of Memphis if the agricultural students could be used as garden-practice teachers in the district of the city near the school. This plan has been worked out satisfactorily by normal schools in other sections of the country.

The school-attendance districts in Memphis, in most cases, divide the city in uniform areas. The schools are centers of population

of these districts and are the best units of division and most satisfactory centers from which to supervise the educational, occupational activities of the children. The children are in the habit of coming to the school for instruction, and for a little more than half of the year are assembled so that instruction may be given to groups without loss of time. In directing the home activities, starting from the school as a center, home-visiting teachers would not be required to walk long distances.

One home-visiting teacher is required to each 100 to 150 children. Thus two or more teachers would be required in most of the Memphis schools to conduct the home-project work with the children in grades 4 to 8, inclusive. By dividing the children according to districts, this would cut down the amount of territory each teacher is required to cover.

## SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS IN GARDENING.

1. Memphis children are out of school 141 days of the year, exclusive of Sundays, and on school days they are free for four or five hours.

2. During school hours the present courses of study in Memphis are not vitalized to any extent by manual training, domestic science, nature study, or field excusions in connection with geography or other subjects.

3. At present the schools do not reach out into the out-of-school hours or vacation period to stimulate educational activities except as was done in gardening up to the close of the school session of this year.

4. During the out-of-school hours only 15 per cent of the 6,772 children reporting have definite employment away from the home and 14 per cent in vacation. Sixty-three per cent of the children have some employment at home, but as this employment is less than one hour per day, there are still four hours on school days and six to eight hours during vacation when the children do not have definite employment. Even when three hours per day are used for occupational activities, there would still be left sufficient time for play and home study.

5. At present the lack of employment often leads to malicious mischief that brings the child to the juvenile court.

6. At the present time there are enough activities in the homes of about half the children, so that definite home occupations might be organized if definite direction were provided by the schools.

7. There is enough available space so that home or vacant lot gardens might be furnished for practically all of the children. The

school districts are well laid out for the supervision of these home activities.

8. A few teachers are trained to direct home gardening and additional training can be received at the normal school located near the boundaries of the city.

9. There is need for purposeful education for all of the upper-grade children in the Memphis public schools. To round out the academic education that is now being given, the school should extend its influence in a practical way to the out-of-school time of the child. Under city conditions such education is needed and the school is the logical agency to promote such work efficiently and economically.

10. School-directed home gardening is not new, and the economic value of the plan has been demonstrated in many cities. By this plan a regular grade teacher is employed to teach gardening as a school subject during one or two class periods each week. This same teacher should, after school hours, on Saturday, and during the summer vacation, visit the homes of the children and give practical instruction in back-yard gardening. The teacher must, of course, receive some extra salary for the extra work. In other southern cities, where this plan is being carried out, the extra salary varies from $200 to $350 per year. This does not mean that extra teachers must be added to the regular staff, but rather that some of the regular teachers are selected and trained for this kind of additional teaching. One such teacher will be needed for each 100 to 150 children. For the present school enrollment about 50 white and 17 colored part-time garden teachers will be needed. The feasibility of this plan might be demonstrated by employing 10 white and 5 colored teachers for the first year and adding other teachers each year until the required number for all schools are employed. Considering the number of teachers employed in this work, when a complete plan is put into operation a supervisor will be required to train and direct the teachers. A representative of the Farm Bureau may act as such supervisor, but in this case should receive official appointment from the board of education, and act under the direction of and report to the city superintendent of schools.

11. By measuring their back yards, less than one-fourth the children enrolled in the grammar-school grades found a total available garden area of 104.6 acres. If this land produced vegetables at the rate of $200 per acre, a total money value of $20,920 would be saved to the Memphis homes. The average production per acre of children who have kept account of the value of their garden products is more than $500. If all of the children of Memphis could take up gardening on a similar scale the value of the products would be about $100,000.