

T H E S I S

**THE EFFICIENCY OF THE PROGRAMS IN AGRICULTURE
OF
THE COUNTY AGRICULTURAL HIGH SCHOOLS OF MISSISSIPPI.**

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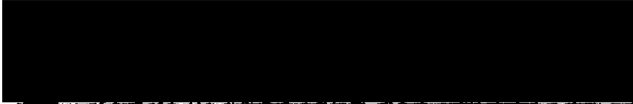
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THIS THESIS HAS BEEN APPROVED AND RECOMMENDED
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PART I.

INTRODUCTION.

The Federal Board for Vocational Education is now spending approximately three million dollars annually for the purpose of teaching vocational agriculture. In addition to this, the states are spending three million and the local communities are spending as much as both of these, which makes a total annual expenditure of approximately twelve million dollars for the purpose of teaching vocational agriculture. In the light of this expenditure, it seems reasonable that sooner or later a study of the efficiency with which this money is spent will be made. The writer has chosen a study along this particular line in the vocational and non-vocational agricultural programs in the County Agricultural High Schools in Mississippi.

THE PROBLEM STATED.

The problem attempted in this thesis is to determine the efficiency of the programs in agriculture of the county agricultural high schools of Mississippi. This major problem involves the solving of a minor problem; namely, to determine the factors of an efficient program in vocational education in agriculture. Definitely established standards by which the efficiency of various educational programs may be measured are apparently not universally accepted at this time. Much has been accomplished in this phase of educational development by Doctor J. C. Wright and Doctor Charles R. Allen of the Federal Board for Vocational Education, through their efforts to establish standards for the measure of efficiency in trade and industrial education. *1.

THE IMPORTANCE OF THE PROBLEM.

The unprecedented growth of agricultural education in the past decade has materially increased the amount of time, human effort and money consumed in carrying out the various agricultural programs. All training programs in agriculture evidently have as an aim the improvement of doing and thinking ability of the individual in the occupa-

*1. "Efficiency in Education", Copyrighted 1927 by Doctor J. C. Wright and Doctor Charles R. Allen.

tion of farming. This training job of the school program may economically be regarded as a production job in training, and should be measured in terms of its efficiency much the same as other production jobs. Obviously, the efficiency of an agricultural program in carrying out its training jobs will be materially influenced by the application of such devices in the training program as are necessary to secure better results in training and insure economy in the use of the three cost factors: time, human effort and money. Society has the right to demand of its publicly supported schools some evidence of the efficiency with which their programs of training are functioning. The writer is materially concerned with the possible answer to this question concerning the agricultural programs of the county agricultural high schools of Mississippi. Are these school programs actually training for successful farming? With what degree of efficiency are they really accomplishing the aims for which they were created? What are the outstanding weaknesses of the present program, if any exist? Can the possible weaknesses of the present program be strengthened to a degree of efficiency that will justify the existence of the program? In justice to society, these problems should be answered in the light of acceptable evidence concerning the efficiency factors of their present programs.

A DESCRIPTION OF THE COUNTY AGRICULTURAL HIGH SCHOOLS OF MISSISSIPPI.

A clear understanding of the establishment and nature of the county agricultural high schools of Mississippi and the farming conditions under which they serve will materially contribute to the readers' understanding of the application of the devices used in solving this problem. With this purpose in view, the writer makes apology for attempting, somewhat at length, a description of the county agricultural high schools of Mississippi and the farming conditions under which their programs of agriculture are forced to serve.

THE TWO TYPES OF COUNTY AGRICULTURAL HIGH SCHOOLS IN MISSISSIPPI.

There are at present two types of county agricultural high schools in Mississippi; namely, that type in which Smith-Hughes programs in agriculture are offered, and that type in which non-Smith-Hughes programs in agriculture are⁷²⁸⁷ offered. Out of the forty-nine county agricultural high schools in the state, there are at present fourteen in which Smith-Hughes programs in agriculture are offered.

Smith-Hughes County Agricultural High Schools.

Only a limited number of county agricultural high schools were ever accepted by the State Board for Vocational

Education. This condition was in some measure due to the limitation of federal funds available in the state, and, in some instances, the schools were either unable or unwilling to comply with the regulations set up by the State Vocational Board. Part of the schools securing Smith-Hughes aid failed to retain it and there has apparently been little effort on the part of the State Board for Vocational Education to encourage the establishment of Smith-Hughes agricultural programs in any new county agricultural high schools for the past few years. All schools receiving Smith-Hughes aid must provide sufficient funds to meet the specific recommendations of the State Board for use in maintenance of the agricultural program and such programs are subject to the regulations and supervision prescribed by the State Board for Vocational Education. All Smith-Hughes programs require ninety consecutive minutes for class work and prescribe that the supervised practice work in agriculture be carried out in the form of individual projects at home or on the school farm. Insofar as it is possible, it is the policy of the State Vocational Board to insist upon the project work being carried out on the home farm. The qualifications and duties of the agricultural teacher in Smith-Hughes programs are subject to the approval of the State Board for Vocational Education.

Non-Smith-Hughes County Agricultural High Schools.

Non-Smith-Hughes county agricultural high schools were in existence in Mississippi nine years prior to the establishment of the Smith-Hughes law. The agricultural programs of those schools in which Smith-Hughes work has not been attempted, and in those schools which later dropped the Smith-Hughes work, have remained much the same in their organization and methods of conducting the agricultural programs. Non-Smith-Hughes programs in agriculture provide the regular one hour recitation periods for class and laboratory work and all directed farm practice is carried out in the form of supervised practice work on the school farms. The state prescribes in part the minimum standards of equipment and facilities necessary for conducting supervised practice training on the school farm. The qualifications and duties of the agricultural teacher in non-Smith-Hughes schools are passed upon by the school superintendent and school trustees. The state supervisor of agricultural high schools has supervision over the agricultural programs in non-Smith-Hughes schools.

ESTABLISHMENT OF THE SCHOOLS.

The county agricultural high schools of Mississippi were established in 1908 through the enactment of

Senate Bill Number 302, whereby provisions were made for the establishment, organization, equipment and maintenance of such schools. *2. This act provides, "That it shall be lawful for the county school board of any county to establish one county agricultural high school in the county for the purpose of instructing the white youth of the county in high school branches, theoretical and practical agriculture, and in such other branches as the board shall later provide for or make a part of the curriculum."

Since the passage of the original bill, there have been many amendments added, one of which provides that two county agricultural high schools may be established in each county, one of which shall be for white students and the other for colored students exclusively. The State Laws of 1910 provide for the joint establishment of county agricultural high schools in adjacent counties. This law has since been amended to make it legal for three or more counties to combine in the support of one school.

NUMBER IN THE STATE AND LOCATION.

There are forty-nine county agricultural high schools in Mississippi, forty-eight of which are for white

*2. State Laws of Mississippi for 1908, Chapter 102, Senate Bill Number 302, Page 92.

students and one for negroes. These schools are fairly equally distributed over the state, and counties in which there are no schools of this type may patronize such schools in other counties by paying a small fee. The location of such schools within the limits of a county is under the supervision of the county school board.

PURPOSE OF THE SCHOOLS.

The legislative act by which county agricultural high schools were established states, "That it shall be the purpose of county agricultural high schools to instruct the youth of the country in high school branches, theoretical and practical agriculture, and such other branches as the board hereinafter provides for or makes a part of the curriculum." The impelling motive that prompted the legislature to provide for the establishment of these schools is further made clear by some of the statutory requirements which set forth: "That each school shall own a minimum of twenty acres of land; that all students must engage in practical work a prescribed number of hours; that practical demonstrations in seeding, planting, cultivating, pruning, treating of fruit trees and other practical farm operations are made a necessary part of the curriculum." Obviously the dominant purpose of these schools was to train boys for successful farming. The present range of academic cur-

riculum which enables the county agricultural high schools to qualify their students for accredited high school diplomas is not construed to materially change their former purpose, but rather to broaden the educational opportunities of the students whom they serve.

THE SCHOOL.

The forty-nine agricultural high schools of the state have school plants valued at an aggregate of approximately five million dollars. *3. The aggregate value of buildings is \$3,210,100.00; land, \$310,458.00; furniture and equipment, \$565,775.00, and the libraries, \$55,140.00. The average valuation of instruction plants is \$84,522.10. The lowest valuation for any single plant is \$18,000.00, and the highest valuation of any single plant is \$324,750.00.

Class Room.

There are no specific requirements concerning the agricultural class rooms as to size or number. Many schools have two class rooms, one of which is used for laboratory and demonstration work. However, the greater number of schools provide for class recitation and laboratory work in the same class room, such rooms being equipped with tables and chairs.

*3. Biennial Report and Recommendations of State Department of Education.

Various types of cabinets are provided in the class room for the storage of laboratory equipment, bulletins, books and various exhibits. The agricultural class room is usually located on the first floor, where it will be easily accessible to students making field trips during class hours.

Laboratory.

Because of the varying agricultural conditions in different counties, it has been deemed impracticable to have a uniform list of agricultural equipment in each school. The individual agricultural teacher is made responsible for the selection of laboratory equipment that is best suited to the subject matter taught. The minimum requirement for laboratory equipment in the agricultural class is \$200.00. It is strongly recommended that a great deal of the laboratory material be secured locally, such as plant collections, insects and fertilizers. There are no set laboratory periods in either Smith-Hughes or non-Smith-Hughes programs. The amount of laboratory work to be done is left to the discretion of the individual teacher. Much of the so-called laboratory work is carried on outside the class room in farm practices.

The School Farm.

The forty-nine county agricultural high schools of Mississippi own an aggregate of 6,517 acres of land. The

average acreage owned by each school is 133 acres. The average size of farms operated by individual schools is 75.75 acres in addition to an average of 41.5 acres of pasture. These school farms are operated for the purpose of providing practical training in agriculture and to demonstrate the best methods of farm practice. They provide the necessary facilities for carrying out the supervised practice work in the agricultural program of non-Smith-Hughes schools. Field crops and all other farm enterprises attempted on the school farm are supposed to be based on a survey of the farming needs and opportunities of that particular locality. Practically all farm work, aside from regularly prescribed supervised training, is done by hired student labor. The statistical report of agricultural schools for 1926 shows that 1,552 boys worked part of their way through school, or an average of 31.6 per cent of all boys enrolled. The same report shows that 365 boys worked all of their way through school, or an average of 7.5 per cent.

Farm Buildings.

There is much variation in the amount and type of farm buildings on the various agricultural high school farms. The type of farm buildings is governed largely by the type of farm enterprises in the respective localities. Consequently, schools in the delta section have considerably

different types of farm buildings from those of the hill counties. Practically all school farms have a stock barn, a dairy barn, implement sheds, poultry house and a farm shop. The farm buildings of the average school farm are much better than the average farm buildings on local farms of the community. The greater part of the farm buildings on school farms are now built by the students under the supervision of the agricultural teacher. During the past six years the writer has built six farm buildings on the school farm with student help, the present inventory value of which is \$5,800.00.

Stock.

The state law provides that each school shall own and operate a dairy sufficiently large to furnish milk and butter necessary for the use of boarding students of the school. Each school must own and operate an approved poultry flock with one or more breeds of chickens, the minimum of which is one hundred hens. It is further provided that each school must own sufficient pure bred hogs for successful teaching and demonstration purposes. Statistical reports of agricultural high schools for 1926 show that the county agricultural high schools of the state owned an aggregate of 129 mules and horses, 321 pure bred dairy cows, 608 pure bred hogs and 8,145 pure bred chickens. However, there is far more grade stock on the average school farm

than pure bred. Many school farms produce a large portion of the fresh meat consumed by the boarding department.

Equipment on School Farm.

The average farm equipment on agricultural high school farms is fairly representative of the farm machinery and general farm equipment that is recommended for use on the local farms of the community. However, the farm equipment on school farms is usually much above the average of that actually found on local farms in the community. This is due to the fact that the average farm equipment on Mississippi farms is far below the average of other agricultural states. The present inventory of farm equipment on the school farm of the writer lists twenty-six horse drawn farm implements, a tractor with tractor equipment, a power driven feed crusher and a cane crusher. This would probably be a little above the average for school farms, but may be taken as fairly representative.

FACULTY.

The average number of teachers employed in these schools is nine. A standard college degree is required of all teachers. A number of schools employ two agricultural teachers for the full twelve months. All agricultural teachers must be graduates of standard agricultural colleges and

have had previous experience in the occupation of farming. The average salary paid to agricultural teachers is \$1,108.00 per year, while 25 per cent of them get \$2,400.00 or above.

INSTRUCTION GIVEN IN PLANT.

County agricultural high schools offer four years of training in high school subjects. The entire course of study includes standard academic, commercial and vocational subjects, which lead to graduation with a high school diploma upon the successful completion of sixteen units, ten of which are based on required subjects. A high school diploma issued by an accredited agricultural high school is standard and is accepted on the same basis as all other standard high school diplomas issued in the state. Two years of vocational training in agriculture and home science is prescribed by the state for all students attending the county agricultural high schools. Many agricultural high schools of the state offer only two years of work in agriculture. Other schools have two teachers of agriculture and offer the full four years of agricultural instruction. There are two classes of agricultural instruction offered in the county agricultural high schools of Mississippi; namely, vocational and non-vocational agriculture.

Non-Vocational.

The non-vocational or non-Smith-Hughes type of county agricultural high schools do not comply with the re-

quirements prescribed by the Federal Board for Vocational Education. Their instructional program in agriculture consists of one hour class periods for instruction and five hours per week of supervised practice work on the school farm. No attempt is made to conduct individual project work in non-Smith-Hughes schools. In addition to the agricultural program, all students are required to take the prescribed amount of regular academic courses as offered in the school. There is no prescribed difference in the academic course of study as offered in either the Smith-Hughes or non-Smith-Hughes county agricultural high schools. The only point of difference as to instruction given in these two types of schools is confined to the agricultural programs. It is necessary, however, that the academic schedules of Smith-Hughes schools be arranged to permit the use of double class periods for vocational programs in agriculture.

Kind of Curriculum.

There is practically no difference in the average academic curriculum as offered in the county agricultural high schools and that of the regular four year city or consolidated high school. The agricultural program as offered in the county agricultural high school constitutes the only outstanding difference in curriculum between the above mentioned classes of schools. The following sample curriculum

as taken from a county agricultural high school catalogue for 1927 is representative of the kind of curriculum found in county agricultural high schools of Mississippi, with possibly a few exceptions. *4.

*4. Harrison-Stone-Jackson Agricultural High School,
Perkinston, Mississippi.
Catalogue Bulletin.

A Sample Curriculum as Taken from a County Agricultural
High School Catalogue for 1927.

Required Subjects

Home Science or Agriculture	- - - -	2 units
English	- - - - -	3 units
History and Civics	- - - - -	3 units
Algebra	- - - - -	1 unit
Plane Geometry	- - - - -	1 unit

Curriculum

Mathematics

First Year Algebra
Second Year Algebra
Plane Geometry
Solid Geometry

English

Composition and Literature
Composition and Grammar
Composition and Rhetoric
Beginning English Literature to Modern

Science

Biology
Physics
Chemistry

Latin

Beginners' Latin
Extended Study of Caesar
Extended Study of Cicero

Agriculture

Plant Production
Animal Husbandry
Field Crops
Farm Management

Home Science

Elementary Cooking
Foods

History

From Earliest Time to the Renaissance
A Survey of Europe from the End of the
Middle Ages to Modern Times
United States History
Civics and Economics

Commercial Work

Bookkeeping
Shorthand
Typewriting

Extra Curricular Activities

Music

Piano
Glee Club
Orchestra
Violin
Band

Physical Education

Organized Athletics
Gymnasium

In programs offering two years of agriculture, one year is devoted to animal husbandry and one year to field crops. The extent to which these courses may overlap is left to the discretion of the agricultural teacher. Agricultural programs offering four years of agriculture provide plant husbandry the first year, animal husbandry the second year, field crops the third year and farm management the fourth year. All farm mechanics is taught in connection with the regular courses offered and no attempt is made to set up a farm mechanics course on a separate basis. The teaching content of the agricultural program is largely based on the practical farm operations that are being carried out on the school farm at that particular time. The one hour class periods provided in non-Smith-Hughes programs may be devoted to class recitation, laboratory, field trips or supervised practice work, at the discretion of the agricultural teacher.

Length of Courses.

The state laws provide that all boys attending the county agricultural high schools of Mississippi must take two years of agriculture. In compliance with this law, all county agricultural high schools provide a minimum of two years of agriculture in their programs. Some schools provide agricultural training throughout the four years of

high school work, in which case two years are made elective. Students entering school with the intention of taking only the required amount of agriculture are privileged to elect either of the two years, when more than two years are offered. The length of the unit course depends upon the length of the school year. Some county agricultural high schools run only eight months. In either case the agricultural program must be pursued throughout the full school year to complete a unit course.

Vocational.

The same general academic instruction is given in the vocational or Smith-Hughes county agricultural high schools as that of the non-vocational schools. The Smith-Hughes program in agriculture constitutes the only difference in instruction as offered in the vocational schools. The schedule of academic subjects, however, must be so arranged as not to conflict with the double class periods prescribed in the Smith-Hughes program. Instruction offered in the vocational program in agriculture must conform to the standards prescribed by the State Board for Vocational Education.

Kind of Curriculum.

A two year program in agriculture is offered in most of the vocational schools. Animal husbandry and field

crops are the basic subjects offered through these courses. However, there is no definite line of separation considered in the teaching of the two subjects and as much overlap between courses as seems practicable to the teacher may be exercised. This enables the student to gather functioning information on his individual problems at the time he needs it most, without regard to his immediate classification. The content is made as flexible as possible to meet the needs of the entire group. The individual home project is made the basis of all practice work. A separate curriculum in agriculture is provided in a few vocational schools whereby the non-select group of agricultural students, who cannot and should not take Smith-Hughes agriculture, are placed in non-vocational agricultural classes. This group includes those who for various reasons are not able to profit by the work because of lack of interest. The curriculum provided for the non-select group is identical with that of the non-vocational classes. This process of selection has apparently proved very successful when used properly.

Length of Course.

The vocational program in agriculture covers a minimum period of two years, and in a number of schools the full four years course in agriculture is provided for those who elect to take the work. All the unit courses continue throughout the summer to completion of the cycle. In the

continuation and expansion type of project this may continue as long as the boy is in attendance at the school, which is sometimes four years.

Provision for Supervised Practice.

An effort is made to identify all class and theoretical training in agriculture with practical participation in real farm enterprises and farm jobs. The difference in method by which this practical training is given in the county agricultural high schools constitutes the most outstanding difference in vocational and non-vocational courses as they are now offered in this type of school. Agricultural training in the non-vocational school is based on supervised practice training on the school farm, whereas the vocational type conducts its program in vocational agriculture on the project basis under the Smith-Hughes act.

Supervised Practice on the School Farm.

All practical training in non-vocational agriculture as provided for in county agricultural high schools is given in the form of supervised practice on the school farm. All farm enterprises and farm jobs taught in class are based on farm enterprises and farm jobs which are being carried out on the school farm at that time. The agricultural teacher has full supervision of the school farm and determines

his selection of farm enterprises and general farm operations on the basis of community needs. The state law provides that all students shall have five hours per week of practical work while in attendance at the county agricultural high schools. The time and method of giving this supervised training is made very flexible. It may be given in groups or to individuals and at such time as may be convenient to both student and teacher. Each student is given actual participating experience in all farm enterprises and farm jobs which he has studied in class. There is much opportunity afforded the teacher to give individual instruction to the students while carrying out their supervised work on the school farm. There is also much opportunity for the student to get extensive training in the enterprises and jobs in which he demonstrates especially strong interest. The same general diversity of farm jobs is carried out on the school farm that is common to the well governed farms of the community.

Project Method Under Smith-Hughes Act.

In the vocational or Smith-Hughes type of county agricultural high school the individual project is the basis for practical training in agriculture. Home projects are generally the accepted type, but in a few instances the student is permitted to carry his individual project on the school farm. The prime difficulty encountered in conducting

individual projects with boys in county agricultural high schools is that the boys live in the school dormitory and often do not go home for several weeks, sometimes months. In such cases they are only able to actively keep in contact with their projects during the summer months. Home projects conducted on the school farm are often even less desirable, due to the fact that the student often returns home for the summer, leaving the project on the school farm at a time when it is in greatest need of attention. Such difficulties are less acute with students who live near enough the school to attend their projects over each week end, and likewise with those students who remain on the school farm during the entire year and conduct their projects on the school farm. In either instance the student selects his own project and works out his project plans, the execution of which is supervised by the agricultural teacher both during the school term and summer.

STUDENT BODY.

There is much diversity in the type and interest of student bodies as found in the forty-nine county agricultural high schools of the state. This is largely the result of the varied social and economic conditions of the counties in which the respective schools are located. Some counties maintaining county agricultural high schools have a decidedly

rural population with farming as the predominating industry. Other counties have a distinctly more urban population, whose predominating industry in the past has been lumber manufacturing. Some county agricultural high schools are located near towns and draw a large number of town students. In a number of cases, the county agricultural high school and town high school are combined. The writer recalls one instance in which the county agricultural high school is the only standard four year high school in the county. There is no age limit placed on attendance, so the student body is often made up of students ranging from fourteen to twenty-five years of age or over. The student body often consists of many students coming from other counties than that in which the school is located. It is not uncommon for students coming from other states to be in attendance at the various county agricultural high schools. With this variety of factors influencing attendance, it is obvious that there is a great diversity of types and interests represented in the average student body of the county agricultural high school.

Number of Students.

For the year 1926 there were 3,844 boys and 3,812 girls, making a total enrollment of 7,656 students in forty-seven of the forty-eight white county agricultural high schools from which records were available. This was an aver-

age of 163 students per school. During the same year there were 651 boys and 822 girls or a total of 1,473 graduates from forty-six of the forty-eight white county agricultural high schools from which records were available. This was an average of 32 graduates per school.

Type of Student.

The variety of factors and conditions influencing attendance of county agricultural high schools and the varied sources and experiences of students from which its attendance is made up obviously presents a complex type of student body. From a vocational viewpoint, the percentage of boys who have actually had participating experience in farming occupations varies with the prevailing occupational conditions of the county in which the respective school is located. Many come from farms where all of their past experience has been gained from farm life conditions. Part of this group may express an interest and desire for vocational agriculture with the expectation of returning to the farm. Others of this group express themselves as having no interest in agricultural training and do not expect to return to the farm. A second group is composed of those who come from towns and have had no participating experience in farm life and may express no interest in vocational agriculture or desire to follow the farming vocation. A third

group is composed of those who come from either town or country who have never had participating experience in the vocation of farming, but express an interest and desire to learn farming with the expectation of taking up farming as their life occupation. This group is representative of that class of people who may have been engaged in the timber industry and who may or may not have a large amount of land which could be made available for agricultural purposes. This class of boys presents a rather singular type, which is more or less representative of an economic situation in Mississippi, caused by the rapidly diminishing lumber industry. The extent to which this situation prevails varies with different counties and sections of the state. There are similar conditions to be found with prospective part-time and evening class groups.

Full Time Students

Until a few years ago practically all the time of the agricultural teacher was devoted to full time students and community extension work. This condition still prevails in most of the schools, with only occasional work being offered to part-time and evening groups.

Part-Time Students.

Very little work has been done with part-time students that could be truly reported as such. The 1927

Agricultural Project Report given out by the State Board for Vocational Education does not report any part-time work in either of the fourteen county agricultural high schools in which Smith-Hughes work is being carried out. There is apparently no official reports on part-time work for any of the non-Smith-Hughes schools.

Adults.

Some effort has been made to put on evening class work with adults in a number of the county agricultural high schools. Much of this work, however, does not include the proper follow-up and for various reasons could not be officially reported as evening class work. The report of the State Board for Vocational Education in 1927 does not indicate any successfully completed evening class work for the fourteen county agricultural high schools in which Smith-Hughes work is offered. There are no definite records of the follow-up work in the non-Smith-Hughes county agricultural high schools and it is impossible to determine with any degree of accuracy the extent to which this work may be called a success.

ADMINISTRATION OF SCHOOL.

The government and control of county agricultural high schools is vested in a board of five trustees, one from each supervisor's district. Two of them are elected

by the board of supervisors, two by the county school board, and the county superintendent constitutes the fifth member. The trustees have control of all school property; approve, elect and fix salaries of all teachers. The superintendent of the school directs and supervises in an administrative capacity the operation of the school. All teachers in the school are directly under his supervision. The agricultural teacher is given general supervision over the school farm and all agricultural instruction offered by the school. The courses offered, length of courses and credits given to full time students is directed by the superintendent and must be in accordance with the requirements of the State Department of Education. The agricultural teacher is given full freedom in planning teaching content and methods in the agricultural classes. In the vocational or Smith-Hughes type of county agricultural high school the State Supervisor for Vocational Education directs the general policies of the agricultural teacher, and the board of trustees and school superintendent must comply with the plans as set up by the State Board for Vocational Education.

FINANCING THE SCHOOL.

The county board of supervisors levy taxes on all taxable property in the county at the time the annual tax levy is made for the support and maintenance of the county

agricultural high school. The law provides that such tax shall not exceed three mills. Funds derived from this tax are deposited with the county treasurer, to be paid out on the order of the board of trustees. In case two or more counties unite in maintaining a joint county agricultural high school, the board of trustees duly appointed from each county appoint the eleventh member. The boards of supervisors from each county then levy a tax for the support and maintenance of the school. In levying taxes for a joint school, each county acts independently. In addition to county funds derived from taxable property of the county, the state legislature makes appropriations for the support and maintenance of county agricultural high schools. The amount of state funds received by any county for the support of county agricultural high schools is based on the number of boarding students enrolled in the school. If the boarding attendance exceeds thirty pupils, the school receives \$3,000.00 per year. If the number exceeds forty-five, the school draws \$4,000.00 from the state funds. If the number exceeds seventy-five, the school draws \$5,000.00 from state funds. Special tax levies may be made by the board of supervisors for increasing buildings, repairs or the purchase of new land. In Smith-Hughes county agricultural high schools one-half of the agricultural teacher's salary is drawn from the Vocational Board. The average county levy for mainten-

ance of county agricultural high schools for the two year period from July 1, 1925 to July 1, 1927 was 1.8 mills. The boarding department of the school operates at actual cost to the students, the average cost of board over the above two year period being \$10.81 per month per each student. A tuition fee is charged by most schools to students from outside the respective county or counties supporting the school.

A DESCRIPTION OF THE FARMS IN MISSISSIPPI.

A brief study of the average type farm and the general agricultural conditions as found in Mississippi will serve to give a more comprehensive understanding of the function and operative problems of the county agricultural high school in training boys for successful farming. The size of farms and the comparative value of farms, farm implements, buildings, live stock, and the efficiency of production on the average Mississippi farm are some of the factors influencing the content and method of agricultural instruction as offered by the county agricultural high schools.

Size of Farms.

The size of farms in Mississippi vary with the general topography and soil belts. Their range is from the five acre hillside farm of the upland section to the large cotton plantations covering thousands of acres in the delta and

prairie belt of the north central and eastern portion of the state. There is likewise much variation in the size of farms within these rather well defined sections. The counties falling within these natural topographic and soil divisions of the state obviously vary widely in the size of their farms and the nature of their respective farming interests. Statistics show that there is only one state in the United States having a smaller acreage per farm than Mississippi. *5. The average acreage per farm in Mississippi is 66.9 acres. The average acreage for the east south central states, of which Mississippi is a part, is 75 acres. The average acreage for the entire United States is 148.2 acres, or more than double the average for Mississippi. The average acreage per farm of improved land in Mississippi is 34.3 acres. The average acreage of improved land per farm for the United States as a whole is 78 acres, or more than double that of Mississippi. The percentage of farm land improved for the United States as a whole is 54.4 per cent, while for Mississippi it is 48.5 per cent.

Comparative Value of Farms.

The relatively small acreage per farm and the limited amount of improvements in the form of farm buildings

*5. Fourteenth Census of U. S. A. for year 1920. Reference to Chart Number 1, in appendix.

and equipment make a very low comparative value for farms in Mississippi. The average value per farm of all farm property in Mississippi is \$3,546.00. *6. The average value per farm of all farm property in the east south central states, of which Mississippi is a part, is \$4,203.00. The average value per farm of all farm property in the United States is \$12,084.00, or more than three times as great as that of Mississippi.

Comparative Value of Farm Implements.

As a result of the small acreage per farm and the comparatively low value of all farm property on the average farm as compared to that of other states, it is obvious that the value of farm implements is comparatively low. The observation of the writer is that this is one of the limiting factors in successful farming in Mississippi. The average value per farm of farm implements and machinery in Mississippi is \$147.00. *7. The average value per farm of farm implements and machinery as found on the farms of the east south central states, of which Mississippi is a part, is \$167.00. The average value per farm for all the farms of the United States is \$557.00, or nearly four times as great.

*6. Ibid., Appendix, Chart Number 1.

*7. Ibid., Appendix, Chart Number 1.

Comparative Value of Land and Farm Buildings.

The class of farm buildings found on the average Mississippi farm varies greatly with different sections of the state. Practically all farm buildings are frame structures, built of pine lumber from the native forests. Many of the earlier settlers constructed their barns and out houses of the farmstead from pine logs taken from the forest. Evidence of these is still very common about the farmsteads of many old settlements. The average Mississippi farm has a number of small and rather inexpensive barns and storage houses about the farm, rather than one or two rather large barns which might have afforded equal accommodations. The average value per farm of land and buildings as found on the Mississippi farm is \$2,903.00. *8. The average value per farm of land and buildings as found in the east south central states, of which Mississippi is a part, is \$3,484.00. The average value per farm of land and buildings for the United States as a whole is \$10,284.00, or over three times as great as that of Mississippi.

Comparative Value of Live Stock.

The value of live stock in Mississippi has been very low in comparison with the vast area of wood land and

*8. Ibid., Appendix, Chart Number 1.

native pasture land that is available, particularly on the open range sections of the state. Open range still generally prevails in the southern part of the state, despite the passage of a state wide stock law. The native, or what is commonly called scrub stock, prevails on the open range, and only a small percentage of beef stock is of the standard pure bred type. More progress has been made in the development of pure bred dairy stock. Registered dairy stock is now quite common on the better dairy farms, while the grade cow still prevails on the average general farms. Much progress has been made to replace the common woods hog with better bred stock, but grade hogs are still far more common on the average farm. Mules are the prevailing work stock on the average Mississippi farm, the greater part of which are purchased from outside the state. In general, it is safe to say that the average type of live stock as found on farms in Mississippi is much below that found in the average state. The average value of live stock per farm in Mississippi is \$496.00. *9. The average value of live stock per farm as found in the east south central states, of which Mississippi is a part, is \$551.00. The average value per farm of live stock for the United States as a whole is \$1,243.00, or more than twice as great as that of Mississippi.

*9. Ibid., Appendix, Chart Number 1.

Efficiency of Production.

The efficiency of production is essentially reduced on the average Mississippi farm as a result of the comparatively small acreage per farm and the proportionately small value of farm implements. The relatively small investment of the average farmer obviously prevents the use of labor and time saving machinery such as is common to the average large and well equipped farm. A greater demand is therefore made on man and horse power, which materially reduces the efficiency of production.

Labor Income per Farmer.

Low standards of efficiency in farm production must essentially result in a comparatively low labor income per farmer. There is at present no available data concerning labor income per farmer for the state at large. However, the results of some rather extensive investigations in this field may prove interesting and serve as a basis for comparison at this point. During the year 1919 a survey was made covering 154 farms, the average investment of which was \$6,520.00 per farm. *10. The results show that the average net income per farm from this investment was \$800.00 per year. The average labor income was \$474.00 per

*10. The Family Living From the Farm, Department Bulletin Number 1338.

year, with a net return on the investment of 4.1 per cent. The average for other sections of the state, from which 1,213 farms were surveyed during the same year, shows a net income of \$2,700.00 per year, with a labor income of \$1,133.00 per year and a net return on capital invested of 7.8 per cent.

A financial statement taken from 19 farms in Choctaw County, Mississippi, during the year 1925, showed an average farm income of \$824.98 per farm. The same report shows an average labor income of \$312.86 per farm. These figures would indicate an average labor income of approximately \$640.00 per farm, which is hardly comparable with common labor wage.

Summarized Comparison.

As a summary comparison of Mississippi farms with the average farms of the United States, we find that the average acreage per farm in Mississippi is 66.9 acres while that for the United States is 148 acres; that the improved farm land of the former is 34.3 acres, while the improved lands of the latter is 78 acres; that the average value per farm of all farm property of the former is \$3,546.00, while that of the latter is \$12,084.00; that the average value per farm of farm implements and machinery for the former is \$147.00, while the average for the latter is \$557.00; and the average value per farm of live stock in Mississippi is \$496.00, while the average value for the United States as a

whole is \$1,243.00. It is obvious from the above figures that the comparative value of farms and farm equipment as found on the average Mississippi farm is very low as compared with the average farms of the United States.

Outstanding Characteristics.

Mississippi ranks near the bottom in its farm values as compared with other average farming states. Its forests and soil have been its only natural material resources. Lumber manufacturing has been its most important manufacturing industry and contributed 44.3 per cent of the total manufactured products of the state. As a manufacturing state, Mississippi ranks thirty-third in number of wage earners and thirty-seventh in number of manufactured products. The forests are rapidly being consumed and in their place millions of acres of cut over lands lie idle, awaiting the skill and knowledge of trained men to convert them into farms or restore their former wealth through reforestation. The past generation has profited through the manufacture of its timber, which often provided greater financial returns than the soil. Farming was often an avocation rather than a vocation with many who professed to be farmers. With the passing of lumber manufacturing, many small villages that sprung up and thrived around the lumber mills are disappearing and their former sites are being converted into farms.

It is obvious that Mississippi is essentially an agricultural state. On a comparative basis with other states, it is equally obvious that its average farm values are far below the standard that should be maintained by a state whose prevailing occupation is that of farming.

Conditions Which Make the County Agricultural High
Schools Particularly Adapted to Mississippi.

County agricultural high schools were established in Mississippi to aid in meeting the need for better training of farmers. There are certain conditions which tend to make this type of school better suited to Mississippi conditions than that of the average state. This type of school provides opportunities for extensive farm practice work on the school farm, which is not found in the regular high school and which is often impossible to carry out in the form of individual projects at home. The farm equipment and live stock found on the average farm is often so limited and inefficient that the agricultural teachers are often confronted with a real problem in conducting the project work efficiently. Comparatively simple methods as taught in the school are often extremely difficult for the boy to carry out on his home project because of the lack of relatively simple, but much needed, equipment. Poor methods and the lack of funds on the home farm often prejudice

the parent against the better practices which the boy attempts to carry out in his home project. It is not desirable to attempt to train the boy in the use of methods and equipment beyond the desirable occupational level of the community in which he expects to live. Such training, however, must be comparable with desirable farming standards if vocational training is to be effective. Many boys enter the county agricultural high schools who have had little or no farm experience, but own sufficient land for farming purposes. These boys often express a desire for agricultural training and a purpose to use it. This type of boy is representative of people who have been engaged in the timber business and whose sons must now inherit the land from which the forests have been removed. The school farm provides practical training and actual farm participation which he could not get in other high schools. The most desirable type of boy often comes from a poor farm home in which his chances for education have been very limited. The county agricultural high school provides work with which they may pay their expenses. Many of these boys remain with the school throughout the full four years, working on the school farm during the summer and during their available time the school year. These conditions tend to make the county agricultural high schools particularly adapted to Mississippi conditions.

REASONS FOR MAKING THE STUDY.

The writer has been particularly interested in the county agricultural high schools since his first entry into the work after leaving college. It is a rather distinct type of educational work as compared with the regular high school and one in which the writer feels it is necessary to serve for a number of years before gaining a full sense of the responsibilities which it imposes upon those whose efforts are given to serving its needs. It has been the intention of the writer to make this study for many years, with a sincere hope that some contribution might be made to county agricultural high schools which would repay the time and effort.

My Connection with County Agricultural High Schools for Nine Years.

The writer has been actively and continuously engaged in county agricultural high school work for the past nine years. The first three years were spent in a school supported by one county. The past six years have been spent in a bi-county school, which has since developed into the only tri-county agricultural high school in the state. The work is hard and challenges the best that is within a man, but the field for service seems great.

Personal Knowledge of Farm Conditions in Mississippi.

The writer was reared on a farm in Mississippi and since returning from college has been actively engaged in agricultural work in the state. In connection with the school, he has operated one of the largest school farms in the state on a self-sustaining basis and has experienced common problems with the farmers. He has done extension work with the farmers as a part of the school program for the past nine years and has made a special effort to learn their problems. He has given assistance in organization work for the promotion of specific agricultural programs among farmers. The writer has spent much time and effort in studying farm conditions in the state and there are but few of the eighty-two counties in the state in which he has not been. Personal contact with farmers and farm life affords one the truest appreciation of farm conditions.

My Faith and Confidence in What the Mississippi County Agricultural High Schools are Doing in Mississippi.

The writer feels that there is a specific work to be done by the county agricultural high schools of Mississippi, which cannot be done so well by any other type of school organization in the state. They are prepared to meet the specific needs of many farm boys which could not be reached through other school organizations now in exist-

ence in the state. The writer does not believe that the present program of agriculture in the county agricultural high school is functioning with the degree of efficiency that is comparable with its possibilities. However, in the light of nine years of experience in this type of school, the writer maintains that the efficiency of the program may be increased and this is the prime motive for which this study is made. The relative degree of efficiency with which the present agricultural program is functioning in the county agricultural high schools of Mississippi can only be determined by a study of the efficiency factors of the program.

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PART II.

DISCUSSION OF THE PROBLEM.

Having described the county agricultural high schools of Mississippi and the farming conditions under which their program must operate, we may now proceed with the major problem of this thesis; namely, the determination of the efficiency of the programs in agriculture of the county agricultural high schools of Mississippi.

DETERMINING THE FACTORS OF AN EFFICIENT PROGRAM IN
VOCATIONAL EDUCATION IN AGRICULTURE.

Obviously the first step in measuring the efficiency of a school program in vocational education in agriculture is to determine the efficiency factors that make up the program. So far as the writer has been able to ascertain, there has been no progress made in the establishment of efficiency standards by which specific vocational programs in agriculture may be measured. However, considerable work has been accomplished along this line by the trade and industry department of vocational education, under the leadership of Doctor Charles R. Allen of the Federal Board for Vocational Education. It is to Doctor Allen and Professor G. A. Schmidt that the writer is indebted for his present efforts to set up a group of efficiency standards in the form of a score card by which the efficiency of a vocational program in agriculture may relatively be measured. *11. The writer does not propose this score as an attempt to measure definite specific results or attainments of individuals, but rather a means by which the operative lay-out of the teaching program may be checked against the effi-

*11. Doctor Charles R. Allen, Federal Board for Vocational Education. Professor G. A. Schmidt, Professor of Vocational Agricultural Education, Colorado Agricultural College.

ciency factors as based on the sixteen generally accepted theories or efficiency factors of vocational education.

Setting up Factors of an Efficient Vocational Agricultural Program Used in Evaluating a Specific School Program.

A teaching program, as in any production job, consumes time, energy and money, and the efficiency of the performance varies inversely with the amount of these elements expended in the teaching performance. After fifteen years of experimenting, leaders in vocational education have set up some definite policies and procedures which have proved successful both in theory and practice. They constitute devices or factors necessary to efficient training and economy in the use of time, labor and money. It is on the basis of sixteen of these efficiency factors that the writer has attempted to set up a score for evaluating a specific school program. The efficiency factors as set up are as follows:

Occupational Training Environment;

Functional Content;

Training in Thinking and Manipulative Habits;

Interests, Aptitudes and Intrinsic Intelligence;

Selected Group;

Repetitive Training;

Occupationally Competent Instructor;

Occupational Training Level;

Training on Real Jobs;
Source of Content;
Special Body of Content;
Contemporary Training Needs;
Group Needs;
Elastic Administration;
Minimum Cost;
Minimum Productive Ability.

A brief explanation of each of the efficiency factors as set up in this score will serve to make clear the meaning of the standards by which this specific program has been evaluated.

Occupational Training Environment.

The theory is generally accepted that the most effective training environment is a replica of the environment in which the learner must subsequently work. Training on the job itself would evidently insure the exact environment. Obviously, the efficiency of a vocational program in agriculture will depend upon the degree to which the agricultural training conditions resemble the occupational farming conditions in which the learner must subsequently work. Some acceptable evidence by which this standard can be measured is the equipment used by the learner, size of projects, nature of the jobs the learners are doing, character

of the projects, time on projects and time on the vocational school work. A statement of the theory on which this standard is based is as follows: "Vocational education will be efficient in proportion as the environment in which the learner is trained is a replica of the environment in which he must subsequently work." *12.

Functional Content.

Farm jobs are not all standardized, but there is usually a best method for doing all farm jobs. The most efficient training can only be given to farm boys when the functional content used in the training process is carried out in the same way and with the same equipment as that used by the farmers in the occupation itself. Some acceptable evidence by which this standard can be measured is the extent to which the skills are used in farming, the extent to which the information is used, the extent to which it is used on projects and the extent to which it develops job ability in the learner. The theory on which this standard is based is as follows: "Effective vocational training can only be given where the training jobs are carried on in the same way with the same operations, the same machines and the same tools as in the occupation itself. *13.

*12. Prosser and Allen, Vocational Education in a Democracy, P. 194.

*13. Ibid., P. 195.

Training in Thinking and Manipulative Habits.

The efficiency of a vocational program in agriculture in which farm boys are trained in thinking and manipulative habits of farming will be effective in proportion as such habits function specifically in the farming occupation in which they are subsequently to work. The learner must be trained in thinking habits and manipulative habits which are similar to those possessed by the farmers on the farm. Some acceptable evidence by which this standard can be measured is determining the extent to which the thinking problems boys are solving are the thinking jobs of farmers, the extent to which the manipulative jobs of boys are the manipulative jobs of farmers, the methods used by boys in solving their problems are their method of doing problems. The content of this standard is based on the following theory: "That vocational education will be effective in proportion as it trains the individual directly and specifically in the thinking habits and manipulative habits required in the occupation itself." *14.

Interests, Aptitudes and Intrinsic Intelligence.

Vocational education accepts the theory that different individuals possess special aptitudes and inter-

*14. Ibid., P. 197.

ests which must be considered if training is to be effective. A vocational program in agriculture to be effective must be designed to meet the needs of those boys who are interested, who want the training and are able to profit by it. Such a program will be efficient in proportion as it enables each individual to capitalize on his interests, aptitudes and intrinsic intelligence. Some acceptable evidence by which this standard can be measured is the enjoyment which the individual gets from his work, his willingness in the work, results obtained, rapidity of learning, and ways of going about the job. The theory on which this standard is based is stated as follows: "Vocational education will be effective in proportion as it enables each individual to capitalize his interests, aptitudes and intrinsic intelligence to the highest possible degree." *15.

Selected Group.

Vocational education assumes that its education is specific and should not be given to those who are unable to profit by the instruction offered. It is therefore obvious that a vocational program designed to train boys for successful farming will be efficient in proportion as its trainees belong to a select group of boys who need the

*15. Ibid., P. 198.

training, who want it and are able to profit by it. Some acceptable evidence by which this standard can be measured is the basis on which trainees are selected: eighth grade graduate, occupational experience, vocation one expects to follow, ability to profit by the work, need for the instruction, economic ability, I. Q., age, attitude and interest of the boy. The theory on which this standard is based is stated as follows: "Effective vocational education for any profession, calling, trade, occupation or job can only be given to the select group of individuals who need it, want it and are able to profit by it." *16.

Repetitive Training.

The pedagogy of vocational education is based squarely upon habit psychology, which states that the formation of long time habits depends upon repetitive training until habits are firmly fixed. Therefore, a vocational program which has as its objective the training of boys for successful farming will be effective in proportion as it trains them in correct thinking and doing habits of farming until such habits are firmly fixed. Some acceptable evidence by which this standard can be measured is the rapid-

*16. Ibid., P. 198.

ity with which type problems can be solved and the degree of skill and rapidity shown by the learner in doing ability to solve problems. The theory on which this standard is based is stated as follows: "That vocational training will be effective in proportion as the specific training experience for forming right habits of doing and thinking are repeated to the point that these habits become fixed to the degree necessary for gainful employment." *17.

Occupationally Competent Instructor.

Vocational education in agriculture may be generally accepted as a social device whereby specific habits pertaining to environment and the thinking and doing habits of farm problems may be rapidly and efficiently developed. These habits must be secured under the direction and supervision of the agricultural teacher, who must himself possess such farm habits and experience in a sufficient degree to meet the occupational requirements of the farming vocation. It is therefore obvious that a vocational program in agriculture will be efficient in proportion as the instructor has had successful experience in the application of the skills and knowledge of farm operations and processes which he attempts to teach. Some acceptable evidence by which this standard can be measured is the number of years

*17. Ibid., P. 199.

of farming experience which the agricultural instructor has had, technical training, professional training, money made in farming, his experience in managing a farm and the nature of his farming experience. The theory on which this standard is based is stated as follows: "That vocational education will be effective in proportion as the instructor has had successful experience in the application of skills and knowledge to the operations and processes he undertakes to teach." *18.

Occupational Training Level.

The functioning value of a vocational program in agriculture will obviously depend upon the ability of the farm boy to use such training in gainful employment in his vocation. However, if on returning to the farm, the productive ability of the boy is below the minimum standard for farm employment, the training will have been of no value to himself or society and the training program to him will have been a failure. Therefore, the efficiency of a vocational program in agriculture, which has as its objective the training of boys for successful farming, will be in proportion to the degree of success with which its trainees are trained to the level of successful farmers in the occupation.

*18. Ibid., P. 200.

Some acceptable evidence by which this standard can be measured is the degree to which boys are trained to the level of successful farmers, the extent to which they are able to do the jobs they are called upon to do, and the extent to which boys are trained to meet the specific farming occupations. The theory on which this standard is based is stated as follows: "For every occupation there is a minimum productive ability which an individual must possess in order to secure or retain employment in that occupation. If vocational education is not carried to that point with that individual, it is neither personally nor socially effective." *19.

Training on Real Jobs.

Professor G. A. Schmidt says, "That perhaps the most outstanding weakness in the teaching of vocational agriculture is the lack of emphasis put upon the pupil's participating experience in the farm jobs or lesson units that are taught." *20. Since vocational education is specific, each lesson unit and farm job should apply directly on some specific farm job or farm problem. Doctors Prosser and Allen state, "An exercise may be defined as training on an operation where the entire purpose is to develop skill and give an opportunity to apply technical knowledge. Under these conditions the product may be of no val-

*19. Ibid., P. 200

*20. Schmidt, G. A., Projects and the Project Method in Agricultural Education, P. 33.

ue whatever, and the conditions under which it was turned out may be totally different from those of the occupation itself. A pseudo job may be defined as an actual production job which is carried on in an actual way so far as knowledge and skill are concerned, but whose product is in no way utilized, and whose working conditions are not those of the occupation." *21. It is evident, therefore, that the efficiency of a vocational program in agriculture will be in proportion as the farm skills and farm problems taught to farm boys are real farmers' jobs, and are carried out under the same working conditions as those of the farming occupation itself. Some acceptable evidence by which this standard can be measured is the size of jobs done by the boys, the nature of jobs done by boys, the equipment used and the method. The theory on which this standard is based is stated as follows: "The effective establishment of process habits in any learner will be secured in proportion as the training given is on actual jobs and not on exercises or pseudo jobs." *22.

Source of Content.

Vocational education has accepted the theory that in order to secure the most reliable content for

*21. Ibid., P. 203.

*22. Ibid., P. 202.

specific training in any occupation it is necessary to go to those who are successfully employed in that occupation. Obviously, the most reliable source of content in training boys for successful farming can best be secured from successful farmers in the occupation, and the efficiency of any school program in vocational agriculture will be in proportion to the degree with which the training content for the course has been selected from the experiences of successful farmers in the occupation. Some acceptable evidence by which this standard can be measured is found by determining the source of teaching content as to community survey, enterprise analysis, operative job analysis, managerial job analysis, bulletins, reference books, text books and successful farmers. The theory on which this standard is based is stated as follows: "The only reliable source of content for specific training in an occupation is in the experiences of masters of that occupation." *23.

Special Body of Content.

Vocational education has not only accepted the theory that the most reliable source of content for any occupation is found in that occupation, but that this content is specific and not general and that it has practically no functioning value in any other occupation. It is

*23. Ibid., P. 203.

obvious, therefore, that the manipulative content, specific technical content and the intelligence content of any vocational school program which has as its objective the training of boys for successful farming will be efficient in proportion as such body of content applies directly and specifically to the farm skills and problems of the farming vocation. Some acceptable evidence by which this standard can be measured is to determine to what extent the special body of teaching content came from successful farmers, books, bulletins, and the job efficiency of the boys, likewise the degree to which it is taught. The theory on which this standard is based is stated as follows: "For every occupation there is a body of content which is peculiar to that occupation and which practically has no functioning value in any other occupation." *24.

Contemporary Training Needs.

The variety of individual interests and problems which characterize the average group of boys who are training for the occupation of farming often challenges the best efforts of the instructor to meet the specific training needs of the group at the time they want it and need it most, and in such a way that they can most effectively profit by the instruction. The most effective training

*24. Ibid., P. 204.

or information that the individual boy can receive is that information which applies on a specific problem in which the boy is interested and wants the information, and is able to profit by it. The efficiency, therefore, of a vocational program in which boys are training for successful farmers will be in proportion to the degree in which that program provides the desirable training that is needed, at the time it is needed and in such a way that the boy may get the greatest amount of profit from it. Some acceptable evidence by which this standard can be measured is by determining the extent to which boys actually get the training when they need it most and when they have immediate use for it, the extent to which boys are using the training which they are getting, extent of individual instruction, flexibility in course content and the flexibility in entrance requirements. The theory on which this standard is based is stated as follows: "Vocational education will render efficient service in proportion as it meets the specific training needs of any group at the time they need it and in such a way that they can most effectively profit by the instruction."

*25.

Group Needs.

The scope and variety of vocational education as it is now offered deals with a great variety of types and

*25. Ibid., Page 206.

interests representative of its trainees. With the development of part-time, day unit and evening classes the problem of group characteristics became more complex. There is not only much diversity in individual interests, aptitudes and intrinsic intelligence, but also a great variety of differences in age and experiences of the learners. A well-organized vocational program in agriculture must not only be prepared to meet the training needs of all day classes, but those of the part-time, day unit and evening classes. It is obvious, therefore, that the efficiency of a vocational program in agriculture will be in proportion as its methods of instruction and personal relation with the learners take into account the particular characteristics of the particular group which it serves. Some acceptable evidence by which this standard may be measured is the extent to which teaching procedure is adapted to meet the needs of full time class methods, part-time class methods and evening class methods. The theory on which this standard is based is stated as follows: "Vocational education will be socially efficient in proportion as in its methods of instruction and its personal relations with the learner it takes into consideration the particular characteristics of any particular group which it serves." *26.

*26. Ibid., Page 207.

Elastic Administration.

Vocational education accepts the theory that it is the job of the vocational administrator to so organize and administer his work that other theories can be effectively carried out in practice. The administration must not be rigid and standardized, but elastic and fluid. It evidently follows that the efficiency of a vocational program in agriculture will be efficient in proportion as the administration of that program is elastic and fluid, rather than rigid and standardized. Some acceptable evidence by which this standard can be measured is to determine the extent to which courses are set up to meet the needs rather than required courses, time entrance requirements, graduation requirements, time given to individual instruction and the time required to complete vocational work. The theory on which this standard is based is stated as follows:

"The administration of vocational education will be efficient in proportion as it is elastic and fluid rather than rigid and standardized." *27.

Minimum Cost.

The cost factor in vocational education often presents a real problem to the administrator, which may re-

*27. Ibid., Page 208.

sult in a partial compromise between the real efficiency of the vocational program and the cost of maintenance. It is evident, however, that this compromise cannot be carried out in vocational education if the theory that vocational training to be effective must be given up to the employment standard. Therefore, the efficiency of a vocational program in agriculture will be in proportion to the amount of funds provided for in meeting the cost needs of effective training. Some acceptable evidence by which this standard can be measured is the evidence of sufficient funds to give effective training to pre-determined levels, the salary of teacher, pupils per teacher, size of shop and the amount allowed for transportation. The theory on which this standard is based is stated as follows: "While every reasonable effort should be made to reduce per capita cost, there is a minimum below which effective vocational education cannot be given, and if the course does not permit of this minimum of per capita cost, vocational education should not be attempted." *28.

Minimum Production Ability.

Effective training in a vocation must necessarily qualify the trainee to meet the market demands for labor in the field in which he is subsequently to work. In some

*28. Ibid., Page 209.

Cases this training may not be regarded as the most desirable way, but it should be up to the present accepted standard for the particular occupation in which the trainee is preparing to work. A vocational program in agriculture must therefore train the individual to meet the accepted level of the farming vocation for his community, and the efficiency of such program will be in proportion to the minimum productive ability in the vocation of farming that the graduated trainees possess. Some acceptable evidence by which this standard can be measured is determined by the success of trainees on entering the job and the success of the trainees on projects. The theory on which this standard is based is stated as follows: "Vocational education must recognize conditions as they are and must train individuals to meet the demands of the 'market' even though it may be true that more efficient ways of conducting the occupation may be known and that better working conditions are highly desirable." *29.

METHOD FOLLOWED IN SCORING.

The method followed in scoring the agricultural programs of these schools was to select four county agricultural high schools with Smith-Hughes programs and four without Smith-Hughes programs, which were as nearly representa-

*29. Ibid., Page 202.

tive of the average programs in the state as possible. Three of these schools were selected from the southern part of the state, three were selected from the central part and two from the northern part. These selections were based on the recommendations of the State Supervisor of County Agricultural High Schools and the State Supervisors for Vocational Education in Mississippi. The writer arranged dates with the supervisors for visitation and making the necessary study of these school programs. Upon arrival at each school, the superintendent of the school, the agricultural teacher, the state supervisor and the writer selected such other available persons as would be competent to form a part of this study group. The personnel from which selections were made consisted of county superintendents, school trustees, county agents, school principals and students of the school. The group making the study was seated in conference method. Each was presented with a copy of the blank score card and the sixteen present theories in vocational education. After a definite understanding of the objective in view, the group proceeded in open conference method to make an efficiency study of that specific agricultural school program in terms of the standards set up on the score card. The smallest number composing any group making this study was five and the largest number composing any one group was nine. The average amount of time consum-

ed with each conference in making this study was approximately three hours.

EVALUATING THE AGRICULTURAL PROGRAM OF THE NON-SMITH-
HUGHES MISSISSIPPI COUNTY AGRICULTURAL HIGH SCHOOLS
IN TERMS OF STANDARDS SET UP.

As a basis for comparison, each of the sixteen standards set up in the score card was given a value of ten and each individual school was scored on the sixteen standards. *30.

On the basis of standard A, "Occupational Training Environment", the four non-Smith-Hughes schools made an average score of 7.5, which indicates that the training environment of these schools is 75 per cent efficient in terms of the standard set up and in comparison with the actual farming environment in which the trainees must subsequently work. *31.

On the basis of standard B, "Functional Content", this group scored an average of 8.0, which indicates that the training content of courses offered in these schools is regarded as 80 per cent efficient in its application to the jobs taught.

*30. Reference, Chart Number 2, Appendix.
Reference to Exhibit Number 1.

*31. Reference to Chart Number 2, Appendix.

On the basis of standard C, "Training in Thinking and Manipulative Habits", the group scored an average of 7.0, which indicates that the degree of efficiency with which these schools develop thinking and manipulative habits of farming with their trainees is 70 per cent.

On the basis of standard D, "Capitalizing on Interests, Aptitudes and Intrinsic Intelligence", the group scored an average of 7.0, indicating that the efficiency of the vocational program as now offered is 70 per cent effective in its effort to recognize and develop individual interest, aptitudes and intrinsic intelligence in their trainees.

On the basis of standard E, "Selected Group", these schools scored an average of 0.0, which indicates that the efficiency of the present program in effectively selecting the individual trainees for vocational training in agriculture is 0 per cent. Evidence in the case shows that the state law provides that all boys attending the county agricultural high schools must take vocational training in agriculture as offered for a period of not less than two years while in attendance. There is no provision in the schools for the selection of students taking agricultural training on the basis of their individual interests, aptitudes, past experience or future intention to use the training in the vocation of farming.

On the basis of standard F, "Repetitive Training", these schools scored an average of 6.75, which indicates

that the present program in agriculture is 67.5 per cent efficient in the practice of providing repetitive training in the correct habits of thinking and doing until these habits become fixed to the degree necessary for successful employment.

On the basis of standard G, "Occupationally Competent Instructor", this group scored an average of 8.75, indicating that the average qualification of teachers in the agricultural program was 87.5 per cent efficient in terms of their successful experience in the application of skills and knowledge of the farming operations and processes which they were teaching.

On the basis of standard H, "Occupational Training Level", the group scored an average of 7.75, indicating that the average efficiency of their agricultural program in training boys up to the minimum standards of the farming occupation of their community was 77.5 per cent.

On the basis of standard I, "Training on Real Jobs", these schools scored an average of 8.75, which indicates that the efficiency of their agricultural program in training on real farm jobs under actual farm conditions is 87.5 per cent.

On the basis of standard J, "Source of Content", these schools scored an average of 6.0, which indicates that the average efficiency with which the training content

for the agricultural program is taken from the experiences of successful farmers in the occupation is 60 per cent. Evidence in the case shows that no efforts are made to carry out the organized community surveys and that enterprise and job analysis are not made in developing teaching content.

On the basis of standard K, "Special Body of Content", the group scored an average of 8.25, which indicates that the efficiency of the agricultural programs in identifying and teaching the specific body of content which applies on the specific farm jobs taught in 82.5 per cent.

On the basis of standard L, "Contemporary Training Needs", these schools scored an average of 6.25, indicating that the efficiency with which these school programs provide for the specific training needs of the individual boy when he needs the training most and when he is best able to profit by it is 62.5 per cent.

On the basis of standard M, "Group Needs", these schools scored an average of 4.0, indicating that the efficiency with which these school programs recognize and carry out the group needs of the trainees is 40 per cent. Evidence in the case shows that part-time and evening class work has not been carried out effectively by these programs.

On the basis of standard N, "Elastic Administration", the group scored an average of 5.5, indicating that

the flexibility of the agricultural program in meeting the needs of the trainees is 55 per cent efficient. Evidence in the case shows that there is no flexibility in time entrance requirements, graduation requirements or time to complete vocational work. There is a limited flexibility in the set-up of courses and the time given to individual instruction.

On the basis of standard O, "Minimum Cost", the average score for these schools is 7.0, which indicates that the average efficiency in the agricultural program in terms of available funds with which effective training in agriculture may be carried out is 70 per cent.

On the basis of standard P, "Minimum Production Ability", these schools scored an average of 5.5, which indicates that the efficiency of the agricultural program in recognizing farming conditions as they are and training boys to meet the market demands for successful employment in the accepted farming level is 55 per cent.

The general average score for the non-Smith-Hughes programs is 6.43, or an average percentage efficiency of 64.3 per cent as indicated by the score. *32.

*32. Reference, Chart Number 2, Appendix.

EVALUATING THE AGRICULTURAL PROGRAM OF THE SMITH-HUGHES
COUNTY AGRICULTURAL HIGH SCHOOLS OF MISSISSIPPI IN TERMS
OF STANDARDS SET UP.

As in the case of the non-Smith-Hughes schools, for the purpose of comparison, each of the sixteen standards set up in the score were given a value of ten and each individual school was scored according to the sixteen standards as set up.

On the basis of standard A, "Occupational Training Environment", the four Smith-Hughes schools made an average score of 7.75, which indicates that the training environment of their school program is 77.5 per cent. *33. Such is the efficiency in terms of the standard set up and in comparison with the actual farming environment in which the trainees must subsequently work.

On the basis of standard B, "Functional Content", these schools scored an average of 8.5, which indicates that the training content as offered in the agricultural program is 85 per cent efficient in its application to the farming jobs taught.

On the basis of standard C, "Training in Thinking and Manipulative Habits", the group scored an average of 8.0, which indicates that the degree of efficiency with which the

*33. Reference, Chart Number 2, Appendix.

agricultural program of these schools develop correct thinking and manipulative habits of farming with their trainees is 80 per cent.

On the basis of standard D, "Capitalizing on Interests, Aptitudes and Intrinsic Intelligence", the group scored an average of 8.5, indicating that the efficiency of their vocational program in agriculture as now offered is 85 per cent effective in its effort to recognize and develop the individual interest, aptitudes and intrinsic intelligence of their trainees.

On the basis of standard E, "Selected Group", these schools scored an average of 3.5, which indicates that the efficiency of their present program in effectively selecting the individual trainees for vocational training in agriculture is 35 per cent. Evidence in the case shows that all boys attending the county agricultural high schools must take vocational training in agriculture as offered for a period of not less than two years while in attendance. It should be noted, however, that three schools in the group have provided some means of selecting the trainees for the Smith-Hughes program and placing the non-select group in non-vocational classes. One school in this group has developed what was regarded as a one hundred per cent efficient method of selecting trainees for its agricultural program.

On the basis of standard F, "Repetitive Training", these schools scored an average of 7.25, which indicates that the present program in agriculture is 72.5 per cent efficient in the practice of providing repetitive training in the correct habits of thinking and doing until these habits become fixed to the degree necessary for successful employment in the farming occupation.

On the basis of standard G, "Occupationally Competent Instructor", this group scored an average of 8.5, indicating that the average qualification of teachers in the agricultural program was 85 per cent efficient in terms of their training and successful experience in the application of the skills and knowledge of the farming operations and processes which they were teaching.

On the basis of standard H, "Occupational Training Level", the group scored an average of 7.75, indicating that the average efficiency of their agricultural program in training boys up to the minimum standards of the farming occupation of their respective community was 77.5 per cent.

On the basis of standard I, "Training on Real Jobs", these schools scored an average of 7.25, which indicates that the efficiency of their agricultural program in training on real farm jobs under actual farming conditions is 72.5 per cent.

On the basis of standard J, "Source of Content", these schools scored an average of 8.75, which indicates that the average efficiency with which the training content for the agricultural program is taken from the experiences of successful farmers in the occupation is 87.5 per cent. Evidence in this case shows that the agricultural teachers all make a community survey and a yearly teaching plan and job analysis in some form.

On the basis of standard K, "Special Body of Content", the group scored an average of 8.75, which indicates that the efficiency of the agricultural programs in identifying and teaching the specific body of content which applies on the specific farm jobs taught is 87.5 per cent.

On the basis of standard L, "Contemporary Training Needs", these schools scored an average of 8.25, indicating that the efficiency with which these school programs provide for the specific training needs of the individual boy when he needs the training most and when he is best able to profit by it is 82.5 per cent.

On the basis of standard M, "Group Needs", these schools scored an average of 5.75, indicating that the efficiency with which these schools recognize and carry out the group needs of the trainees is 57.5 per cent. Evidence in this case shows that some work was attempted in evening

class work, but was not well organized and did not have a complete follow-up.

On the basis of standard N, "Elastic Administration", the group scored an average of 7.5, indicating that the flexibility of the agricultural program in meeting the individual needs of the trainees is 75 per cent. Evidence in the case shows that there is very limited flexibility in the time entrance requirements, graduation requirements or time to complete vocational work. There is adequate flexibility in the set-up of courses and the time given to individual instruction in directed practice work.

On the basis of standard O, "Minimum Cost", the average score for the group is 7.5, which indicates that the average efficiency of the agricultural program in terms of available funds with which effective training in agriculture may be carried out is 75 per cent.

On the basis of standard P, "Minimum Production Ability", these schools scored an average of 5.75, which indicates that the efficiency of the agricultural programs in recognizing farming conditions as they are and training boys to meet the market demands for successful employment in the accepted farming level is 57.5 per cent.

The general average score for the Smith-Hughes agricultural programs is 7.43, or an average percentage efficiency of 74.3 per cent as indicated by the score. *34.

*34. Reference, Chart Number 3, Appendix.

COMPARISON OF WHAT THESE SCHOOLS ARE DOING.

Standard.	Score on Standard.	
	Smith-Hughes	Non-Smith-Hughes
A. Occupational Training Environment.	77.5 %	75.0%
B. Functional Content.	85.0	80.0
C. Training in Thinking and Manipulative Habits.	80.0	70.0
D. Capitalizing on Interests, Aptitudes and Intrinsic Intelligence.	85.0	70.0
E. Selected Group.	35.0	0.0
F. Repetitive Training.	72.5	67.5
G. Occupationally Competent Instructor.	85.0	87.5
H. Occupational Training Level.	77.5	77.5
I. Training on Real Jobs.	72.5	87.5
J. Source of Content.	87.5	60.0
K. Special Body of Content.	87.5	82.5
L. Contemporary Training Needs.	82.5	62.5
M. Group Needs.	57.5	40.0
N. Elastic Administration.	75.0	55.0
O. Minimum Cost.	75.0	70.0
P. Minimum Production Ability.	57.5	55.0
Average Score	74.3	64.3

ABSTRACTIONS AND GENERALIZATIONS.

A scrutiny of the efficiency scores of the agricultural programs in the county agricultural high schools of Mississippi in the aggregate indicates a comparatively low degree of efficiency in their training programs for the vocation of farming on a basis of the efficiency standards by which they were measured. On a basis of the sixteen standards set up, the average efficiency of agricultural programs in Smith-Hughes and non-Smith-Hughes schools, considered jointly, is 66.8 per cent. *35. The average efficiency of the agricultural programs in Smith-Hughes schools, considered separately, is 74.3 per cent. *36. The average efficiency of the agricultural programs in non-Smith-Hughes schools, taken separately, is 64.3 per cent. These figures indicate that the Smith-Hughes programs are on the average 10 per cent more efficient in training for the farming vocation than the non-Smith-Hughes type. On a basis of the sixteen standards by which these programs were measured, the Smith-Hughes programs out-ranked non-Smith-Hughes programs in thirteen of the sixteen standards set up. Non-Smith-Hughes programs ranked 2.5 per cent more efficient in the competency of agricultural teachers and 15 per cent more efficient in the practice of training on real farm jobs.

*35. Reference, Chart Number 3, Appendix.

*36. Reference, Chart Number 2, Appendix.

Methods of selecting the group of trainees for the agricultural program constitutes the lowest standard of efficiency in both Smith-Hughes and non-Smith-Hughes programs. However, the Smith-Hughes program indicates 35 per cent more efficiency in this point. It will also be observed that the Smith-Hughes program is decidedly more efficient in the factors of selecting teaching content, training in thinking and manipulative habits, capitalizing on interests, aptitudes and intrinsic intelligence, and in providing contemporary training needs and elasticity in administration.

Outstanding Weaknesses.

Decidedly the most outstanding weakness in both Smith-Hughes and non-Smith-Hughes agricultural programs of the county agricultural high schools is the existing basis of selecting trainees. Evidence of this is made particularly impressive through the application of graphs in illustration. *37. State laws provide that all boys attending the county agricultural high school must take agriculture for a minimum period of two years while in attendance. Many are forced into the agricultural program who have no interest in the training or future intention of following the occupation of farming. There are many others who elect to take agriculture beyond the two years prescribed by law, who have no material interest in the training other than to get

*37. Reference, Charts Numbers 4, 5, 6 and 7. Appendix.

the credit which the course carries and participate in the outside class work, which to some has a greater appeal than the routine class activities of academic courses. This problem becomes even more acute in Smith-Hughes programs where a number of town boys and others who have no facilities for conducting home projects and, above all, have no interest or desire for the training are in the classes. Various processes of selection have been attempted in a limited way by a number of Smith-Hughes programs, some of which indicate very effective results. It is obvious that the evil effects of poor methods in selecting the trainees for a program may reflect in some degree upon the other efficiency factors of that program.

The second outstanding weakness, and one which is more characteristic of non-Smith-Hughes programs, is the inefficiency with which these programs are able to capitalize on the individual interests and aptitudes of the boys. A successful home project will evidently contribute more to the individual interests and responsibility of the boy because of personal ownership than the group or individual practice work on the school farm where the reward for his labor is often the mere practice of doing and through which the individual may or may not have the opportunity to develop his specific aptitudes.

The difficulty with which boys are successfully trained in the correct thinking habits of farming constitutes a third weakness in non-Smith Hughes programs, which may often result from the absence of project methods of supervised training. It is obviously less probable that a boy will be induced to think out all of the functioning facts that count in his specific farm job in the same manner that a farmer thinks out his farm problems on the farm unless this farm job of the boy carries with it the same responsibility of ownership and monetary investment and the possibility of remunerative returns.

A fourth outstanding weakness, common to non-Smith-Hughes schools, is the method of securing teaching content. Community surveys are often limited in nature and more or less inaccurate. The yearly teaching plan is often a matter of mere memory rather than a well organized program of teaching procedure which serves as a fairly accurate schedule for the year's work. Practically no attempts are made to develop well organized job analysis for determining all the functioning facts.

Training on real farm jobs under actual farming conditions presents a fifth outstanding weakness which often appears more acute under the operation of Smith-Hughes programs. This is often an unavoidable situation in many cases because of the limited facilities of the individual

for conducting worthy individual projects on the home farm. The limitation of land, farming equipment, funds and other functional factors often make this a serious difficulty to overcome.

Providing contemporary training needs for the boy is an outstanding weakness, which is more characteristic of the non-Smith-Hughes programs. The actual class instruction is often given without immediate concern for the specific problems that are to be carried out in supervised practice work by the boy on the school farm. It is highly desirable that all instruction be directed toward the solution of specific problems which confront the boy and at the time it will most effectively function in helping the boy to solve his problem.

One of the most undesirable weaknesses in the agricultural program of both Smith-Hughes and non-Smith-Hughes schools is the limited degree of elasticity with which their programs are permitted to meet the rather academic administration demands of the general school program. The most desirable type of farm boys are often unable to leave the farm and enter school at its regular opening. Under the present system no special provision is made for their late entry, except under the handicap of making up all courses in such a way that they may qualify in all standards of the school. The fact that a boy may want to take a course in dairying or other specific farm enter-

prises alone does not relieve him of the necessary obligation of carrying the prescribed amount of other academic subjects, under the present organization of agricultural high schools. The same graduation requirements are prescribed for all who enter and the time required to complete a course in the agricultural program is the same for a town boy who has had no previous farm experience as that for the typical farm boy who may possess the general functional knowledge of farming and merely have entered school to master the science and technique of farming processes. Courses are generally prescribed with a hope that they will touch upon the specific problems of each member of the class. Smith-Hughes programs give evidence of 20 per cent more efficiency in their efforts to meet the immediate training needs and emergencies of their trainees than the non-Smith-Hughes programs.

Failure to recognize and train for the group needs and minimum production ability standards of the trainees constitutes other outstanding weaknesses in the agricultural program, which deserve particular mention as being characteristic of both Smith-Hughes and non-Smith-Hughes programs in the county agricultural high schools of Mississippi. *38. Teaching methods have been directed almost exclusively to

*38. Reference, Chart Number 5.

full time classes in the agricultural programs of county agricultural high schools and comparatively little time has been given to work with the part-time and evening groups. Evidence in the case indicates that such efforts as have been made with part-time and evening class groups have not been carried to the point of successful conclusion and could not be reported upon as successful. Out of the fourteen Smith-Hughes programs in county agricultural high schools, none reported successfully on part-time or evening class work for the year 1927.

The low standard of efficiency with which these programs recognize and train for the minimum production ability of their students is equally worthy of consideration. It is obvious that the level of the farming occupation must be recognized and that trainees must be fitted to meet the level of working conditions in the occupation. Evidence in this case indicates that the present efficiency of the agricultural programs in training boys to the minimum production ability standards of the farming occupation is comparatively low. This relatively low standard may be partially attributed to reflected influences of the undesirable methods by which trainees are selected.

Overcoming Weaknesses.

Evidently some of the outstanding weaknesses in the agricultural program of county agricultural high schools

in Mississippi can be overcome to some extent. It has been the purpose of the writer in making this study that such existing weaknesses as might be brought out should serve to stimulate remedial measures whereby such weaknesses as exist may be overcome and the efficiency of these programs increased. On the basis of the writer's knowledge and past experiences in county agricultural high schools in Mississippi, apology is offered for attempting a few constructive suggestions for overcoming some of the outstanding weaknesses which are indicated in the present agricultural programs.

In view of the fact that all boys attending these schools are not interested in farming and have no future intention of using the training, it seems obvious that the state law requiring all boys to take a minimum of two years agriculture while in attendance at the county agricultural high schools should be repealed. The efficiency of group selection may further be stimulated by permitting only those boys to elect vocational agriculture who give evidence of their interest in the work, ability to take the training and their future intention of using the training in the occupation of farming. If there is any justification for offering agriculture on the basis of an academic science, such trainees as may elect to take the work when unqualified should be grouped in a non-vocational class and a separate program provided to meet their needs.

A more difficult problem may be encountered by non-Smith-Hughes programs in their efforts to capitalize on the individual interests and aptitudes of the learner in the absence of individual project methods. Personal ownership of the boy obviously stimulates individual interest and responsibility which cannot be easily substituted. Therefore, the efficiency with which the individual interests of the learner are stimulated through supervised practice on the school farm will be largely dependent upon the instructors' ability to develop right habits of attitude on the part of the learner. A careful teacher may so direct the supervised training of the individual along the line of his special aptitudes that it will make some appeal to his individual interests.

Training the individual in correct thinking habits of farming in the absence of individual projects presents an equally difficult problem to overcome in non-Smith-Hughes school programs. Evidently the true thinking habits of the farmer are largely motivated through his personal ownership and individual responsibility. The school farm belongs to the school and not to the boy. Therefore, it is obvious that the thinking habits of the boy in working through his directed practice problems on the school farm will not be synonymous with the thinking habits of farmers whose success or failure in farming enterprises means a personal gain or

loss. Again the nearest approach to desirable standards of efficiency in this factor will evidently be through the efforts of the instructor in developing desirable attitude habits on the part of the learner.

The fourth outstanding weakness, which appears to be most frequent in non-Smith-Hughes programs, would probably be the most easily corrected. The theory is generally accepted in vocational education that the most reliable source of teaching content comes from those who are successful in that occupation. On the basis of this theory, the efficiency of this standard would be materially raised through the efforts of the teacher in making reliable community surveys, preparing lesson plans, enterprise analysis, job analysis, and basing the teaching content on evidence taken from successful farmers in the occupation.

The fifth outstanding weakness, which is apparently more common in Smith-Hughes programs, is in some measure influenced by other factors, some of which are more or less difficult to control. Because of the limitation of land, farm equipment and finance, the individual projects as carried out on the home farm are often inadequate to provide training on real farm jobs that can be regarded as comparable with the ability of the trainee. The boarding type of school makes it more difficult for students to attend their home projects at the time that attention is needed.

There are three probable avenues through which the efficiency of this standard may be improved. First, those students whose home facilities are inadequate to effectively carry out home projects should be placed in the non-vocational group and given supervised training on the school farm. Second, special effort may be made to stimulate better home facilities for conducting home projects. Third, more flexible administration in the school may be sought, whereby the boy is permitted to keep a closer contact with his home and home project work.

The sixth outstanding weakness, which is brought about through the apparent lack of contemporary training needs, may be materially increased through the development of individual instruction methods. This will serve to eliminate the so-called "cold storage" methods of instruction and all training will be directed to the solution of individual and specific problems at the time training is needed most and in such a way that the boy is best able to profit by it. This practice may also be very effectively carried out on the school farm by basing teaching content on the specific farm jobs which are being carried out on the school farm at that particular time by the boys.

The weaknesses of the agricultural program caused by the lack of elasticity in administration can be remedied with comparatively little difficulty only insofar as local conditions affect the program. There are state wide regu-

lations which the local administration is forced to carry out, such as graduation requirements, time required to complete course and prescribed courses of study. These can only be corrected through the revision of state laws.

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PART III.

CONCLUSIONS.

The following conclusions concerning the efficiency of the agricultural programs in the county agricultural high schools of Mississippi appear to be justifiable on the basis of the standards by which they were evaluated.

The average efficiency of the agricultural programs in county agricultural high schools of Mississippi is 66.8 per cent, which evidently indicates a comparatively low standard of efficiency for a training program. The average efficiency of the vocational or Smith-Hughes type of agricultural program in county agricultural high schools of Mississippi is 74.3 per cent. The vocational or Smith-Hughes programs indicate 10 per cent more efficiency in their agricultural programs than the non-Smith-Hughes type. On a basis of the efficiency standards by which these programs were evaluated, Smith-Hughes programs out-ranked non-Smith-Hughes programs in thirteen of the sixteen standards set up.

Methods of selection of the group of trainees for agricultural programs in the county agricultural high schools of Mississippi constitute the most outstanding weakness in both Smith-Hughes and non-Smith-Hughes programs. Other outstanding weaknesses common to both programs is their failure to recognize and meet group needs and provide training to the standard of minimum production ability. The most outstanding weakness of Smith-Hughes programs in comparison with non-Smith-Hughes programs is the low standard of efficiency with which they provide training on real jobs. The most outstanding weaknesses of non-Smith-Hughes programs in comparison with Smith-Hughes programs are the low standard of efficiency with which they effectively train in the thinking habits of farming, capitalize on individual interests and aptitudes, select reliable sources of teaching content, meet contemporary training needs of the boy and provide desirable elasticity in administration. Many outstanding weaknesses which now exist in the agricultural programs of county agricultural high schools may be greatly reduced through local administration. The revision of a few state regulations would evidently contribute materially to the efficiency of the agricultural programs.

The efficiency standards by which these programs have been evaluated may appear exacting in form and the results of their application somewhat revolutionary. However, this may be regarded as the consequent result of an abrupt

change from rather hap-hazard methods of reckoning results to a rather detailed analysis of the functioning factors which operate in the case. This may be regarded as an initiatory attempt to replace former hit-or-miss assumptions concerning the efficiency of training programs in the field of agriculture to a method by which more scientific conclusions may be reached.

PART IV.

A P P E N D I X

Exhibit Number One.- Score Card.

Score Card For Evaluating Factors of an Efficient Educational Program in a Specific School Program

STANDARDS	PERFECT SCORE	EVALUATED SCORE	TEST (WHAT MUST BE DONE.)	ACCEPTABLE EVIDENCE BY WHICH THE QUESTIONS CAN BE MEASURED
A. Occupational Training Environment	10.	7.50	1. To what degree do training conditions resemble the occupational conditions?	1. Equipment used by boys. 2. Size of projects. 3. Nature of jobs boys are doing. 4. Character of projects. 5. Time on projects. 6. Time on Vocational School Work.
B. Functional Content	10	8.25	1. Does it apply on the job? 2. Is it M, T, I, J, or Mo.?	1. Are the skills used in farming? 2. Is the information used? 3. Is it used on projects? 4. Does it help do better the job? 5. Does it develop job ability?
C. Training in Thinking and Manipulative Habits.	10	7.50	1. Are thinking jobs farmers jobs? 2. Are Manipulative jobs farmers jobs? 3. Will the jobs give all round farming	1. Kinds of problems boys are solving. 2. Methods of solving problems. 3. Methods of doing problems.
D. Capitalize on Interests, Aptitudes and Intrinsic Intelligence.	10	7.75	1. Is the boy interested? 2. Does he want the training? 3. Is he profiting by the training?	1. Enjoyment in the work. 2. Willingness in work. 3. Results obtained. 4. Rapidity of learning. 5. Ways of going about the job.
E. Selected Group.	10	1.75	1. What are the basis of selecting trainees?	1. Eighth Grade graduate. 2. Occupational experience. 3. Vocation one expects to follow. 4. Ability to profit by work. 5. Need for instruction. 6. Economic ability. 7. I. Q. (8) Age. (9) Attitude. (10) Interest.
F. Repetitive Training.	10	7.00	1. Is repeated practice in doing and in given until habits are fixed?	1. Rapidity with which type problems can be solved. 2. Degree of skill and rapidity shown in doing ability to solve problems.
G. Occupationally Competent Instructor	10	8.50	1. What is the occupational competency of instructor?	1. Years of farming experience. 2. Technical training. 3. Professional training. 4. Money made in farming. 5. Has he managed a farm? 6. Nature of farming experience.
H. Occupational Training Level.	10	7.75	1. Are boys trained to level of successful occupations? 2. Can they do jobs they are called up to? 3. Are boys trained to meet the specific needs of occupations?	1. Jobs performed by boys. 2. Plans boys made for carrying out jobs. 3. Ways boys used heads in over coming difficulties. 4. Ability to do and solve the problems encountered in occupation.

Average Score For All Schools.

Exhibit Number One.- Score Card.

Score Card For Evaluating Factors of an Efficient Educational Program in a Specific School Program

STANDARDS	PERFECT SCORE	EVALUATED SCORE	TEST (WHAT MUST BE DONE.)	ACCEPTABLE EVIDENCE BY WHICH THE QUESTIONS CAN BE MEASURED
A. Occupational Training Environment	10.	7.50	1. To what degree do training conditions resemble the occupational conditions?	1. Equipment used by boys. 2. Size of projects. 3. Nature of jobs boys are doing. 4. Character of projects. 5. Time on projects. 6. Time on Vocational School Work.
B. Functional Content	10	8.25	1. Does it apply on the job? 2. Is it M, T, I, J, or Mo.?	1. Are the skills used in farming? 2. Is the information used? 3. Is it used on projects? 4. Does it help do better the job? 5. Does it develop job ability?
C. Training in Thinking and Manipulative Habits.	10	7.50	1. Are thinking jobs farmers jobs? 2. Are Manipulative jobs farmers jobs? 3. Will the jobs give all round farming	1. Kinds of problems boys are solving. 2. Methods of solving problems. 3. Methods of doing problems.
D. Capitalize on Interests, Aptitudes and Intrinsic Intelligence.	10	7.75	1. Is the boy interested? 2. Does he want the training? 3. Is he profiting by the training?	1. Enjoyment in the work. 2. Willingness in work. 3. Results obtained. 4. Rapidity of learning. 5. Ways of going about the job.
E. Selected Group.	10	1.75	1. What are the basis of selecting trainees?	1. Eighth Grade graduate. 2. Occupational experience. 3. Vocation one expects to follow. 4. Ability to profit by work. 5. Need for instruction. 6. Economic ability. 7. I. Q. (8) Age. (9) Attitude. (10) Interest.
F. Repetitive Training.	10	7.00	1. Is repeated practice in doing and in given until habits are fixed?	1. Rapidity with which type problems can be solved. 2. Degree of skill and rapidity shown in doing ability to solve problems.
G. Occupationally Competent Instructor	10	8.50	1. What is the occupational competency of instructor?	1. Years of farming experience. 2. Technical training. 3. Professional training. 4. Money made in farming. 5. Has he managed a farm? 6. Nature of farming experience.
H. Occupational Training Level.	10	7.75	1. Are boys trained to level of success? 2. Can they do jobs they are called up 3. Are boys trained to meet the specific occupations?	1. Jobs performed by boys. 2. Plans boys made for carrying out jobs. 3. Ways boys used heads in over coming difficulties. 4. Ability to do and solve the problems encountered in occupation.

Average Score For All Schools.

Score Card For Evaluating Factors of an Educational Program in a Specific School Program

STANDARDS	PERFECT SCORE	EVALUATED SCORE	TEST (WHAT MUST BE DONE?)	ACCEPTABLE EVIDENCE BY WHICH THE QUESTIONS CAN BE MEASURED
I. Training on Real Jobs.	10	7.75	1. Are training jobs real farmer's jobs?	1. Size of jobs done by boys. 2. Nature of jobs done by boys. 3. Equipment used. 4. Method used.
J. Source of Content.	10	7.50	1. What was the source of teaching content?	1. Community survey. 2. Enterprise analysis. 3. Operative job analysis. 4. Managerial job analysis. 5. Bulletins. (6) Reference Books. 7. Text Books. (8) Successful Farmers.
K. Special Body of Content.	10	8.50	1. Was the special body of teaching content certified? 2. Is it taught?	1. From successful farmers. 2. Books. (3) Bulletins. 4. Job efficiency of the boys.
L. Contemporary Training Needs.	10	7.25	1. Do the boys actually get the training they need it most, and when they have immediate use for it?	1. Are boys using training they are getting? 2. Individual instruction. 3. Flexibility in course content. 4. Flexibility in entrance requirements.
M. Group Needs.	10	4.75	1. Are teaching procedures adapted to part time, and evening class group needs?	1. Are full time class methods used? 2. Are part time class methods used? 3. Are evening class methods used?
N. Elastic Administration.	10	6.50	1. Are courses rigid or flexible? 2. Is mass or individual instruction given? 3. When can boys enter? 4. How long must they stay to complete?	1. Time entrance requirement. 2. Graduation requirement. 3. Time to individual instruction. 4. Time required to complete Vocational work. 5. Are fixed courses required or are courses set up to meet needs. 6. Emergencies.
O. Minimum Cost.	10	7.25	1. Are funds expended sufficient to provide training to pre-determined levels?	1. Salary of teacher. 2. Pupils per teacher. 3. Size of shop and laboratory. 4. Equipment in laboratory. 5. Equipment in class room. 6. Equipment in shop. 7. Amount allowed for transportation.
P. Minimum Production Ability.	10	5.50	1. Do trainees when graduated possess productive ability?	1. Success of trainees on entering the job. 2. Success on projects.

Average Score For All Schools Cont.

Score Card For Evaluating Factors of an Efficient Educational Program in a Specific School Program

STANDARDS	PERFECT SCORE	EVALUATED SCORE	TEST (WHAT MUST BE DONE?)	ACCEPTABLE EVIDENCE BY WHICH THE QUESTIONS CAN BE MEASURED
I. Training on Real Jobs.	10	7.75	1. Are training jobs real farmer's jobs?	1. Size of jobs done by boys. 2. Nature of jobs done by boys. 3. Equipment used. 4. Method used.
J. Source of Content.	10	7.50	1. What was the source of teaching content?	1. Community survey. 2. Enterprise analysis. 3. Operative job analysis. 4. Managerial job analysis. 5. Bulletins. (6) Reference Books. 7. Text Books. (8) Successful Farmers.
K. Special Body of Content.	10	8.50	1. Was the special body of teaching content justified? 2. Is it taught?	1. From successful farmers. 2. Books. (3) Bulletins. 4. Job efficiency of the boys.
L. Contemporary Training Needs.	10	7.25	1. Do the boys actually get the training they need it most, and when they have immediate use for it?	1. Are boys using training they are getting? 2. Individual instruction. 3. Flexibility in course content. 4. Flexibility in entrance requirements.
M. Group Needs.	10	4.75	1. Are teaching procedures adapted to part time, and evening class group needs?	1. Are full time class methods used? 2. Are part time class methods used? 3. Are evening class methods used?
N. Elastic Administration.	10	6.50	1. Are courses rigid or flexible? 2. Is mass or individual instruction given? 3. When can boys enter? 4. How long must they stay to complete?	1. Time entrance requirement. 2. Graduation requirement. 3. Time to individual instruction. 4. Time required to complete Vocational work. 5. Are fixed courses required or are courses set up to meet needs. 6. Emergencies.
O. Minimum Cost.	10	7.25	1. Are funds expended sufficient to provide training to pre-determined levels?	1. Salary of teacher. 2. Pupils per teacher. 3. Size of shop and laboratory. 4. Equipment in laboratory. 5. Equipment in class room. 6. Equipment in shop. 7. Amount allowed for transportation.
P. Minimum Production Ability.	10	5.50	1. Do trainees when graduated possess productive ability?	1. Success of trainees on entering the job. 2. Success on projects.

Average Score For All Schools Cont.

Chart No. 1.- Average Farm Values of Mississippi Compared With Average Farm Values of Other States And The United States.

Division And State	Average Acreage Per Farm.		Average Value Per Farm.				Average Acreage Per Farm improved Land.	Percent of Farm Land improved.
	All Land.	Improved Land.	All Farm Property	Land And Buildings.	Implements & machinery	Live Stock		
Geographic Divisions:	Acres	Acres	Dollars	Dollars	Dollars	Dollars.	Acres.	
East South Central States.	76.0	42.2	4,203.	3,484.	167.	551.	42.2	56.3
West South Central States.	174.1	64.4	7,652	6,316	312.	1,024	64.4	37.0
Mountain States.	480.7	123.3	16,727	12,968	781.	2,987	123.3	25.7
South Atlantic States.	84.4	41.9	5,292	4,488	245.	558	41.9	49.6
West North Central States.	234.3	156.2	25,517	22,307	1,060	2,157	156.2	70.6
East North Central States.	108.5	81.0	15,898	13,771	725	1,403	81.0	75.4
Middle Atlantic States.	94.4	62.5	9,290	7,061	845	1,384	62.5	67.9
New England States.	108.5	39.1	7,492	5,860	590	1,042	39.1	36.0
Pacific States.	239.8	102.2	22,664	19,941	992	1,731	102.2	42.9
Average For United States	148.2	78.0	12,084	10,284	557	1,243	78.0	54.4
Average For Mississippi.	66.9	34.3	3,546	2,903	147	496	34.3	48.5

Chart No. 2 - Score of Smith-Hughes And Non Smith-Hughes Schools On Each Standard.

Name of School	Scores And Averages.																		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	T.S.	AV.	%P.
Smith-Hughes Schools.																			
Clay A.H.S.	8.5	8.0	9.0	9.0	2.0	8.5	8.5	9.0	6.5	9.5	8.5	8.5	7.0	7.5	7.5	6.5	124	7.75	77.5
Chickasaw A.H.S.	6.0	7.5	7.5	8.0	2.0	7.0	8.0	6.0	6.5	8.5	8.0	7.5	3.0	7.0	7.0	5.0	104.5	6.53	65.3
Ittawamba A.H.S.	7.5	9.0	8.5	8.0	0.0	7.0	8.0	8.0	7.0	8.5	9.0	8.0	6.5	7.5	7.0	5.0	114.5	7.15	71.5
Jones A.H.S.	8.5	9.0	7.0	9.0	10.0	6.5	9.0	8.5	9.0	9.0	9.5	9.0	6.5	7.5	8.5	6.0	132.5	8.28	82.8
Total Score.	30.5	33.5	32.0	34.0	14.0	29.0	33.5	31.5	29.0	35.5	35.0	33.0	23.0	29.5	30.0	22.5	475.5	29.71	297.1
Average Score.	7.75	8.50	8.00	8.50	3.50	7.25	8.50	7.75	7.25	8.75	8.75	8.25	5.75	7.50	7.50	5.75		7.43	74.3
Non Smith-Hughes.																			
Choctaw A.H.S.	7.5	8.0	5.0	6.0	0.0	6.5	7.5	7.5	8.0	4.0	8.0	5.0	3.0	6.0	5.0	5.0	92.0	5.75	57.5
Oktibbeha A.H.S.	8.0	8.0	7.0	8.5	0.0	7.0	9.0	7.0	8.0	7.0	8.0	8.0	3.0	5.0	7.5	6.5	107.5	6.71	67.1
Pearl River A.H.S.	6.0	7.0	6.0	5.0	0.0	6.0	9.0	7.5	8.0	6.0	7.0	4.0	3.0	5.0	6.5	5.0	91.0	5.69	56.9
Harrison-Stone A.H.S.	8.5	9.0	9.5	8.5	0.0	7.5	9.5	8.5	9.5	7.0	9.5	8.0	6.5	6.0	9.0	5.0	121.5	7.59	75.9
Total Score.	30.0	32.0	27.5	28.0	0.0	27.0	35.0	30.5	33.5	24.0	32.5	25.0	15.5	22.0	28.0	21.5	412.0	25.75	257.4
Average Score.	7.50	8.00	7.00	7.00	0.00	6.75	8.75	7.75	8.75	6.00	8.25	6.25	4.00	5.50	7.00	5.50		6.43	64.3

Chart No. 4 - Graph of The Average Score of All The Schools.

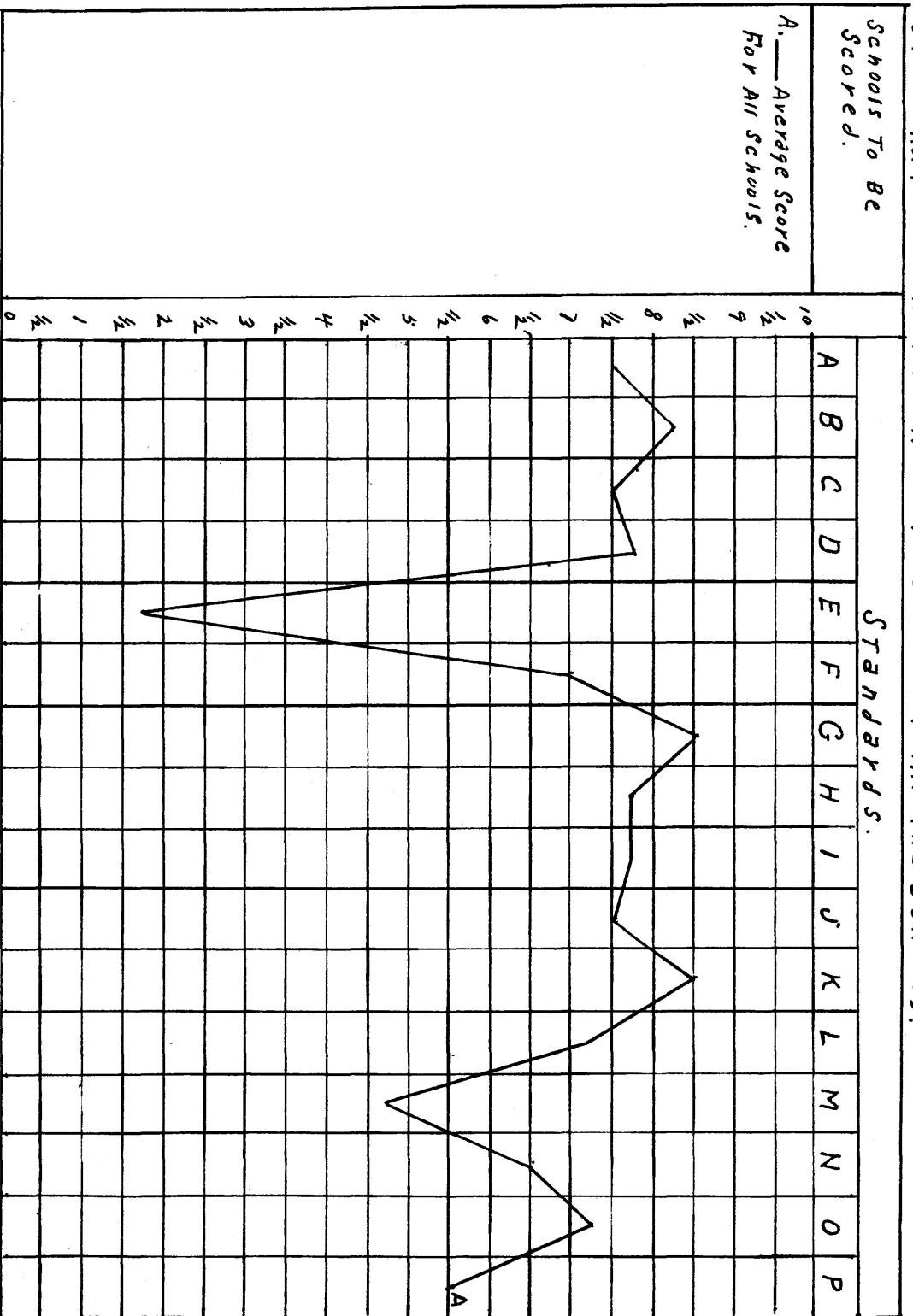


Chart No. 6--Graph of the Average Score of Smith-Hughes and Non Smith-Hughes Schools.

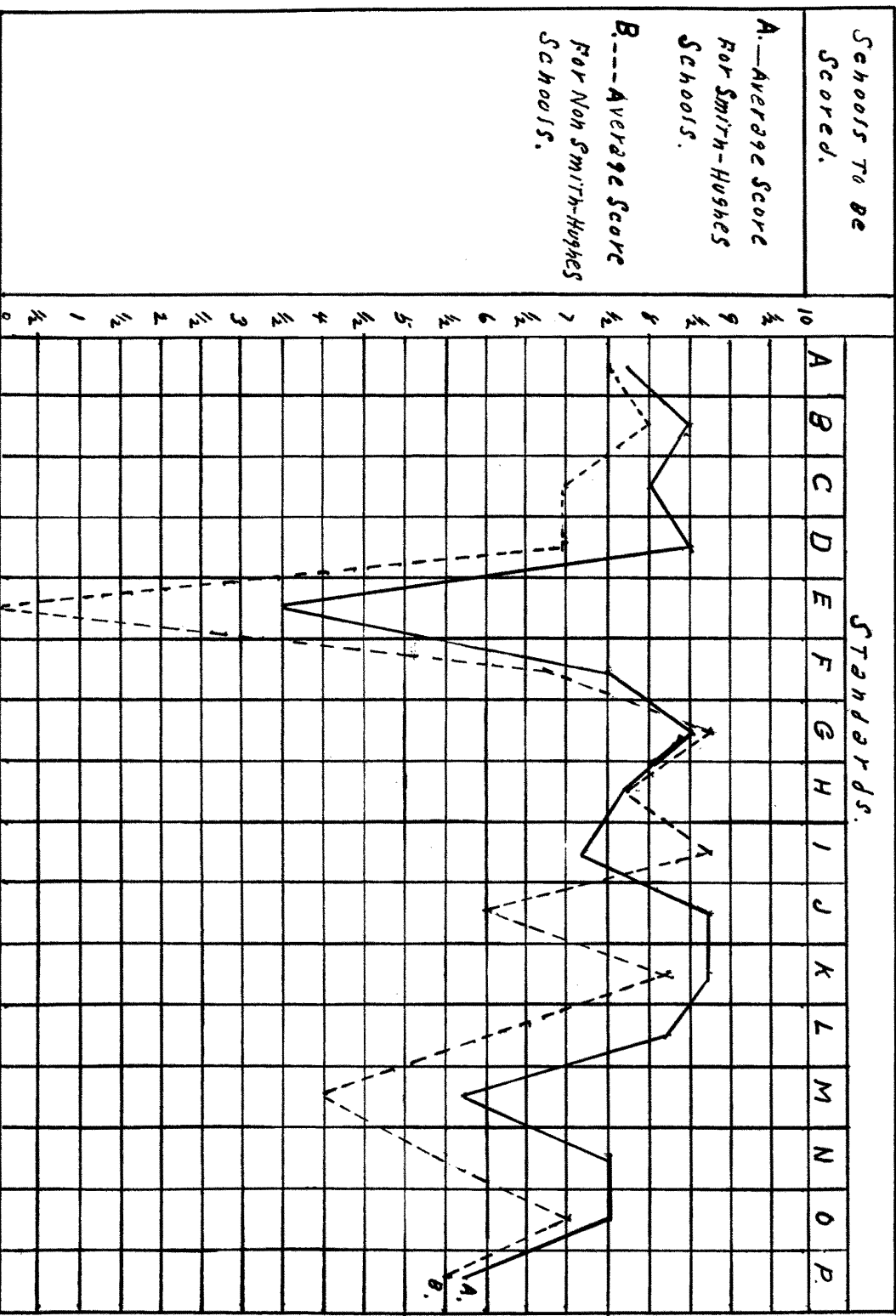


Chart No. 6.- Graph of The Average Score of Smith-Hughes, Non Smith-Hughes
And Average of All Schools.

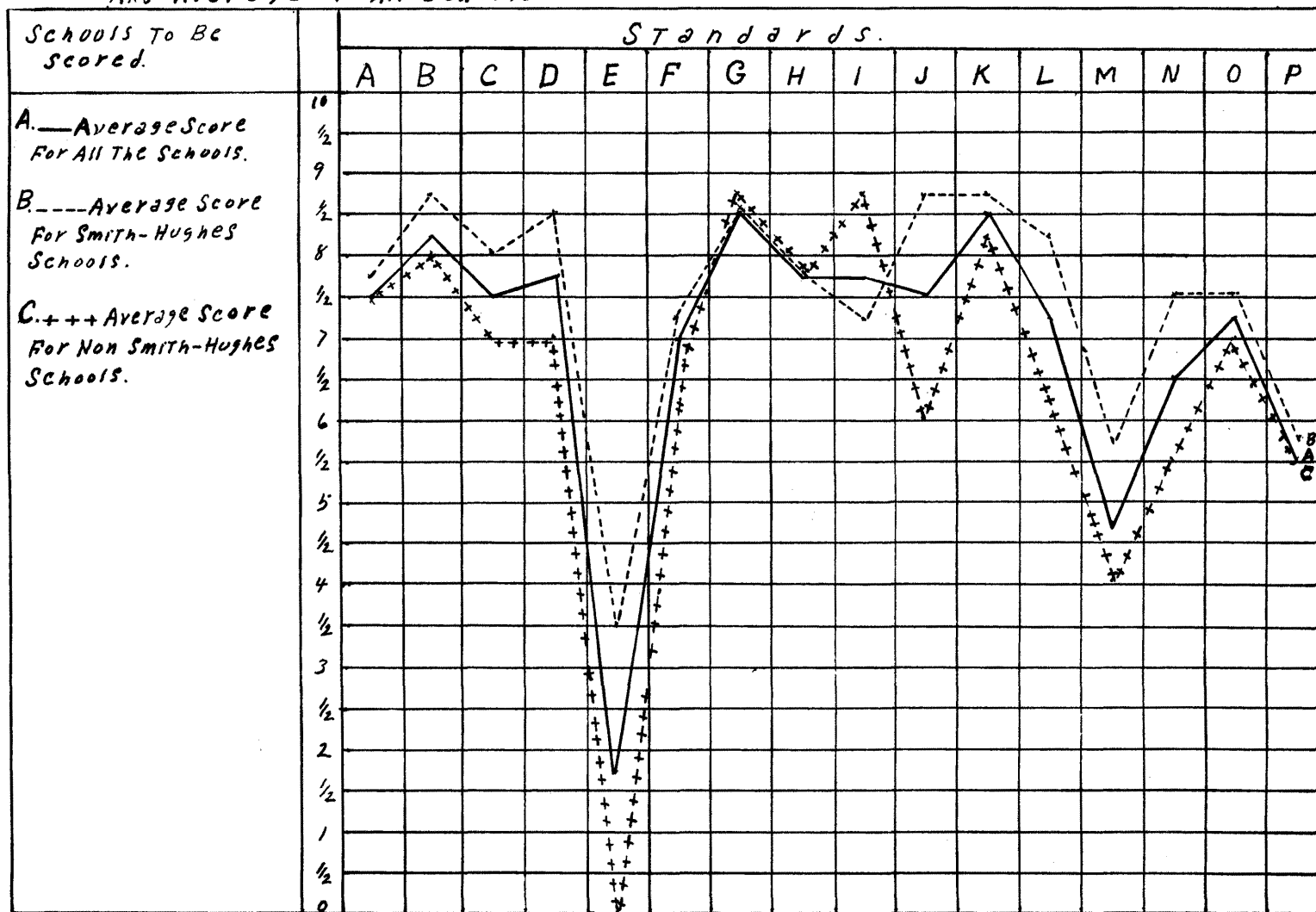
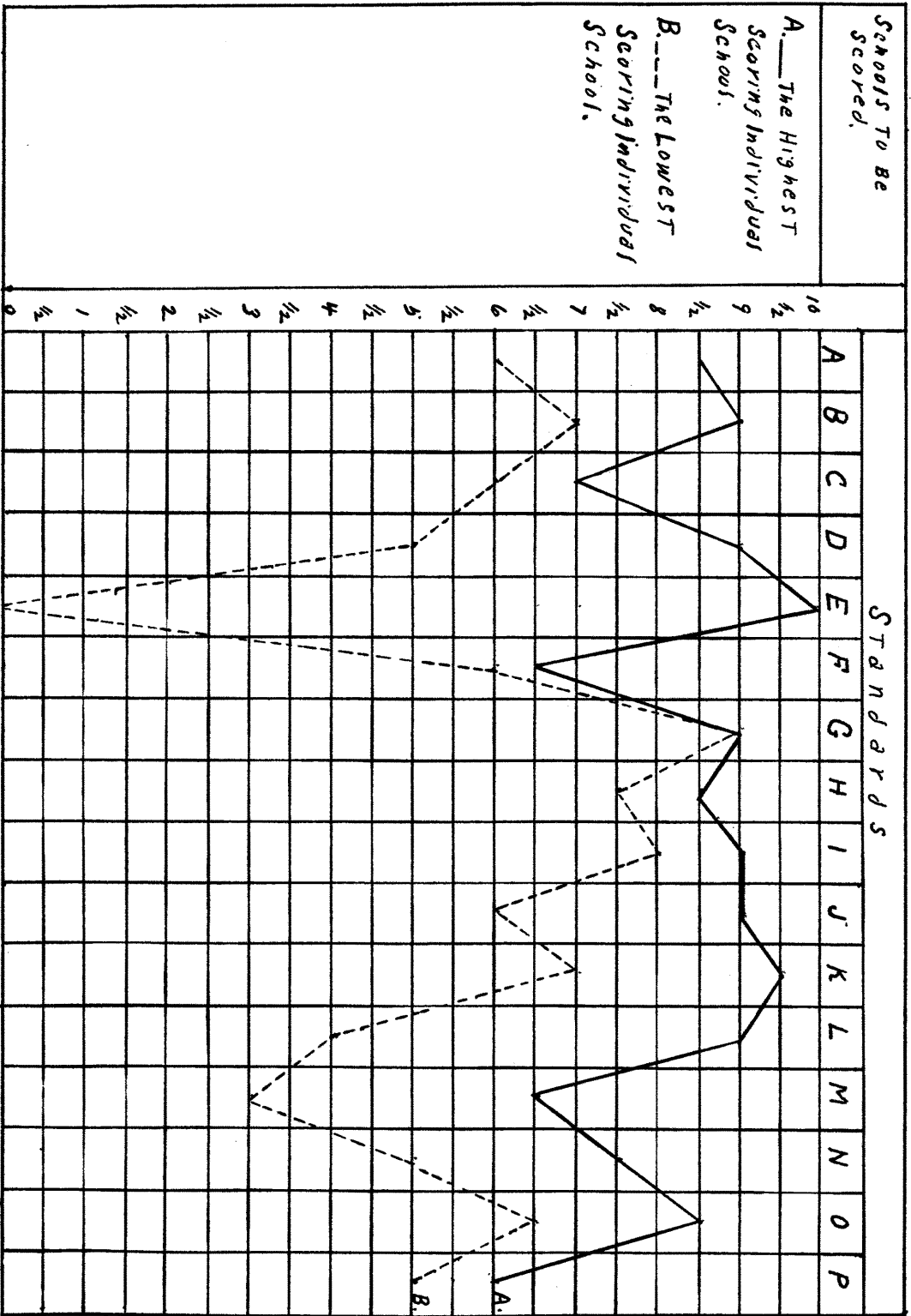


CHART NO. 7.-Graph of The Average Score of The Highest and Lowest Scoring Schools



PART V.

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