

T H E S I S

MEASURING THE EFFICIENCY OF ALL-DAY PROGRAMS
IN VOCATIONAL EDUCATION IN AGRICULTURE
IN TEN COLORADO SCHOOLS

Submitted by

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THIS THESIS HAS BEEN APPROVED AND RECOMMENDED FOR
THE DEGREE OF MASTER OF SCIENCE

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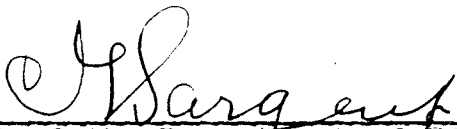
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The writer wishes to acknowledge the assistance rendered him by the Smith-Hughes teachers of agriculture who made it possible for their programs to be studied and a rating obtained.

To Professor G. A. Schmidt is due special acknowledgment for the privilege of using the sixteen testing points as applied to agriculture, and for the suggestions concerning the rating charts used. These were adapted from Professor Schmidt's book, "Efficiency in Vocational Education in Agriculture".

Acknowledgment is also due others of the Department of Rural and Vocational Education for their helpful direction and criticism.

MEASURING THE EFFICIENCY OF ALL-DAY PROGRAMS
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I

INTRODUCTION

1. A Statement of the Major Problem. The problem attempted is to study the present programs in vocational education in agriculture in ten Colorado schools and to check these programs against acceptable standards characterizing an efficient program.

2. A Statement of the Minor Problems. The major problem breaks itself up into the following minor problems:

- a. To secure a set of reliable standards against which to check the programs in vocational education in agriculture in the ten Colorado Schools.
- b. To set up a series of testing points for each standard to be used as a means of evaluating the programs in the ten Colorado schools.
- c. To rate each program in the ten schools studied on each of the sixteen standards according to the ratings given on the testing points.
- d. To make a graph for each school to visualize the results of the study.
- e. To make an analysis of the results.
- f. To offer constructive criticisms necessary to improve schools studied.

3. Origin of the Problem. Professor G. A. Schmidt, in his book "Efficiency in Vocational Education in Agriculture", "has taken the sixteen standards which characterize an efficient plan for vocational education that have been drawn up and stated by Doctors Prosser and Allen in their book, 'Vocational Education in a Democracy', and has sought to

apply these standards to the field of vocational education in agriculture". (1)

To quote Professor Schmidt, "The first decade of the teaching of vocational agriculture of less than college grade in the public schools of the United States has just come to a close. The present is, therefore, a most opportune time in which to give a careful consideration to the study of the various programs which are being pursued in vocational education in agriculture, in order that some estimate may be made of the operating efficiency of what has been done, and in order that, as an outgrowth of such an analysis, progress can continue to be made in this particular field of social service." (2)

4. Reasons for Making the Study. There are three distinct purposes in mind in making this study. These are:

- a. To determine the strong points and the weak points of the Colorado vocational educational program in agriculture.
- b. To discover means of strengthening the Colorado vocational educational program in agriculture.
- c. To enable the writer to better conduct an efficient program in his future work in agricultural vocational education.

5. Previous Studies in This Field. As far as the writer can ascertain, there has been, up to the present time, but one other study made in the measuring of the efficiency of programs in vocational education in agriculture.

(1) Schmidt, G. A., "Efficiency in Vocational Education in Agriculture", The Century Co. 1928. p. IX.

(2) Ibid. p. VII.

This study was made by Mr. C. B. Colmer of Perkinston, Mississippi. His thesis was accepted by the graduate committee of the Colorado Agricultural College in 1928 and is filed in the library of that institution.

6. Sources of Data. The data used in this paper were secured from the agricultural instructors of the ten schools studied. They were obtained by personal interviews and observations.

7. Procedure Followed in Making the Study. The standards to be used in measuring the efficiency of the schools were first determined. The testing points and sub-testing points were next worked out for each standard. With these clearly outlined, each school was visited and the outline gone over with the instructor as it related to his vocational agricultural program. His teaching was observed, method and content of instruction being noted. Shop, classroom, and laboratory were visited in each case and the necessary observations made.

With this information, each program was studied and rated. An analysis was made of the results of the survey and constructive criticism set up.

It is realized in making this study that the instructors, whose programs were studied, were not equally critical in their judgment. With the different personalities and influences entering in, some were inclined to

criticise their program quite severely, while others rather tended to bolster up their program. This is not a criticism of the instructors, but of the exactness of the results here set forth. The one stabilizing influence in the making of the study was that the writer obtained all information through interviews with the instructors and through personal observation of teaching and teaching conditions. It was his final judgment that decided the ratings given.

It is thought that where an instructor was prone to criticise severely, one standard would receive about the same treatment as another. This is also thought to be true where the criticism was less severe. This is the important element in this study, for it is not an exact comparison of the ten programs studied (one against the other) that is of greatest importance; but the weakness and strength of the various programs and of the vocational educational program as a whole.

II

SETTING UP THE STANDARDS

In determining the efficiency standards to use, it was found that a number of sets of standards had been developed for measuring the efficiency of an educational program. Among the outstanding ones are:

1. The ten characteristics of efficiency of a vocational program set up by Wright and Allen in their book, "The Administration of Vocational Education".
2. The ten major objectives of general education, as given by Franklin Bobbitt in his book, "How to Make a Curriculum".
3. The seven "Cardinal Principles of Secondary Education", as stated by the Commission on the Reorganization of Secondary Education of The National Education Association, United States Bureau of Education, Bulletin 1918, No. 35.
4. The sixteen "Present Theories in Vocational Education" in "Vocational Education in a Democracy" by Prosser and Allen.

The last set of standards mentioned above was decided upon as it had been directly applied to vocational education in agriculture by G. A. Schmidt in "Efficiency in Vocational Education in Agriculture". Of these standards, Dr. C. A. Prosser says, "While these principles have been widely discussed and used in various ways, so far as is known their soundness has not been questioned or contradicted by any educator in any field." (1)

These sixteen standards are listed on the following page.

(1) Schmidt, G. A., "Efficiency in Vocational Education in Agriculture", The Century Co. 1928. p. xiv.

THE SIXTEEN STANDARDS USED IN RATING THE TEN SCHOOLS

- I. Instruction is given to a selected group.
- II. The instructor is occupationally competent in the practices he teaches.
- III. The training environment resembles the working environment.
- IV. The teaching content directly functions in the work for which the pupil is being trained.
- V. The content of the training is obtained from reliable sources.
- VI. The training is given on real jobs.
- VII. The training jobs are carried on in the same way as in the occupation.
- VIII. The training meets the needs of learners at the time when they need help and in the way that gives most help.
- IX. The training helps the individual to capitalize his interests and abilities.
- X. The learner is trained specifically in the manipulative habits and in the thinking habits required in the occupation.
- XI. The training is adapted to the particular characteristics of the learners.
- XII. The training experiences are repeated until right habits are fixed.
- XIII. The training is carried to the point where it gives the trainee a productive ability essential to success in the occupation.
- XIV. The training meets the market demands of the occupation.
- XV. The funds expended on the training should be sufficient to permit the doing of an efficient job.
- XVI. The administration of the training program is elastic.

III

SETTING UP THE TESTING POINTS

In order to get a comparative use of the standards, it was found necessary to set up testing points under each standard. By doing this it made sure that each school would be rated by the same testing points. To put it on a still further scientific basis and insure that the testing be done on the same basis in the case of each school, sub-testing points were made under each testing point. The sub-testing points are in the form of a question; and in seeking an answer to each question the qualitative phrase, "To what degree", was affixed. This made it necessary that each question be answered in terms of a percent or a fraction, thus getting the result on a comparative basis.

It is not intended that the testing points cover the whole field under a given standard. It is thought that a sufficient range of testing points, which are of major importance, is used to give a fair test of the program.

The Rating Charts under Appendix A show the testing and sub-testing points for the sixteen standards.

IV

RATING THE PROGRAM IN EACH SCHOOL

Comparative values from 1 to 10 were assigned to the testing points. In turn the sub-testing points were given a comparative value. If the comparative value of a given testing point were ten, and it was decided that the program being rated was fifty percent efficient in this respect, the rating given would be fifty percent of ten, or five.

The rating on each testing point in the sixteen standards was arrived at in this way.

In order to compute the score on the standard, it was necessary to take the sum of the product obtained by multiplying the comparative value by the rating and dividing it by the sum of the comparative values. This gave the score, or weighted average, on the standard with ten the perfect score. The score on each standard was found in this way.

The Rating Charts under Appendix A show the rating of School No. 4 in each of the sixteen standards.

Under Appendix B is shown the Rating and Score Chart of Each School in Each of the Sixteen Standards. In this chart is given rating of each of the ten schools in each of the sixteen standards. It also shows the final score of each of the ten programs studied.

The programs rated are those located in the following school systems:

Brush
Fort Collins
Fort Morgan
Gill
Greeley
Laporte
Longmont
Loveland
Platteville
Windsor

The order in which these schools are listed has nothing to do with the numbers given them in the following graphs.

V

GRAPHING THE RESULTS

In order to show at a glance the relative efficiency of each standard in each of the ten programs studied and the average efficiency, the following graphs were constructed.

By referring to the first graph it is quickly evident that the standards that are outstandingly high or outstandingly low are common in practically every program. It is also seen that in practically every case no rating drops below five, except in standard eight and sixteen (training meeting the needs of learners and the elasticity of the program, respectively). This graph also shows that there is no outstanding top nor outstanding bottom, there being a gradual gradation from one extreme to the other.

In the second graph the high, the low and the average of all the programs are shown. This gives the range of the programs studied. It also gives the average of all the programs. This average is found to center around the seventy percent efficiency line. By this graph is also shown the fact that in the top, the bottom and the average program each standard has much the same relative position.

VI

ANALYZING THE RESULTS

By referring to Appendix C we find the average rating of all sixteen standards in all the ten schools to be 7.2.

The average rating for each standard is also given in this table. Arbitrarily a high rating is taken to be one which is over eight and five-tenths, and a low rating to be that which is six or less. Those standards receiving a rating between these two points are considered as average.

Thus we find that there are three standards with a high rating:

Standard II, The Instructor Is Occupationally Competent In the Practices He Teaches. This standard ranks the highest of the sixteen standards. This ranking indicates that the instructor is well qualified for his job in practical farm experience, technical agriculture, and professional training.

Standard IV, The Teaching Content Directly Functions In the Work For Which the Pupil Is Being Trained. This indicates that the enterprises taught are those which are the important ones in the community in which they are taught; that the lesson units are based on real farm jobs; that the subject matter is that which gives the best infor-

mation on these farm jobs; that this subject matter is so analyzed that it can be more easily grasped by the pupil.

Standard V, The Content Of the Training Is Obtained From Reliable Sources. From this it is seen that the source material is of a desirable type. Practical farmers are consulted on the method of doing the various jobs and the various state and federal bulletins are used quite extensively.

Thus we see that the programs in vocational agriculture studied are being directed by well qualified men, who teach that which the boy who is to become a farmer needs, using reliable source material.

By referring again to Appendix C we find there are two standards ranking low:

Standard VIII, The Training Meets the Needs Of Learners At the Time When They Need Help and in the Way That Gives Most Help. While it is found that the boy is taught that which he needs as a farmer, it is here found that he does not receive this instruction at the time it will be of the greatest value to him. The problems too frequently are the instructor's problems, instead of being the problems of the boys.

Standard XVI. The Administration Of the Training Program Is Elastic. This standard is closely allied to the above standard. It is found that individual instruction is

practiced to a relatively slight degree. The old classroom method is held too quite rigidly. It is necessary for the boy to enter the class at the beginning of the term and remain in the class until the end of the term, regardless of the comparative progress he has made.

We have analyzed the results of this study taking the standards as a whole. The high standards and the low standards have been discussed. It is now necessary to analyze the testing points so that the weak points within all the standards may be found. This will give us a basis for constructive criticism.

Referring again to Appendix C, the average rating of each testing point in each standard may be seen. On analyzing this the essential facts in relation to each standard are determined. These facts are listed below as the strong points or as the weak points of each standard. As in analyzing the standards as a whole, a strong point in a program was arbitrarily taken to be any testing point rating over eight and five-tenths; and a weak point was likewise taken to be any testing point rating six or less. The testing points receiving a rating between these two points were considered to be an average.

As a result of this analysis we will be able to make suggestions for the improvement of the programs.

Strong PointsWeak Points

Standard I

None. :No. 5. Previous schooling of
: pupil, rating 4.2.

Standard II

No. 1. Instructor's practical farm experience, rating 10. :None.
: :
:

No. 3. Instructor's training in technical agriculture, rating 10. :
: :
:

No. 4. Instructor's professional training, rating 8.7. :
: :
:

No. 5. Instructor's training and experience in farm mechanics, rating 10. :
: :
:

Standard III

No. 1. Nature of lessons, rating 8.7. :None.
: :
:

No. 5. Appearance and equipment of agricultural rooms, rating 8.8. :
: :
:

Standard IV

No. 2. Method of determining the enterprise, rating 8.7. :None.
: :
:

No. 3. Method of determining the jobs in the enterprises, rating 9.4. :
: :
:

No. 4. Nature of lesson units, rating 8.9. :
: :
:

Standard V

No. 2. Use of State Experiment Station bulletins, rating 9.7. :None.
: :
:

No. 3. Use of State Extension bulletins, rating 9.7. :
:

No. 4. Use of U.S.D.A. bulletins, rating 9.7. :
:

Standard VI

None. :None.

Standard VII

None. :None.

Standard VIII

None. :No. 1. Class entrance requirement, rating 3.2.

:No. 2. Time of leaving class, rating 2.6.

:No. 3. Use of individual instruction, rating 4.6.

Standard IX

No. 1. Interest of pupils in the training, rating 8.6. :None.
:

Standard X

No. 1. Type of training given, rating 9.0. :None.
:

Standard XI

None. :No. 2. Use of individual instruction, rating 5.4.

Standard XII

None. :No. 3. Degree to which
: habits are fixed thru con-
: tinuation work, rating 5.5.

:No. 4. Degree to which hab-
: its of acquiring needed in-
: formation are developed,
: rating 5.5.

Standard XIII

None. :None.

Standard XIV

No. 5. Development of poten-:None.
tial enterprises, rating 8.7.:

Standard XV

No. 4. Number of pupils per :None.
teacher, rating 8.6. :

No. 5. Compensation for use :
of car in project supervi- :
sion, rating 9.8. :

Standard XVI

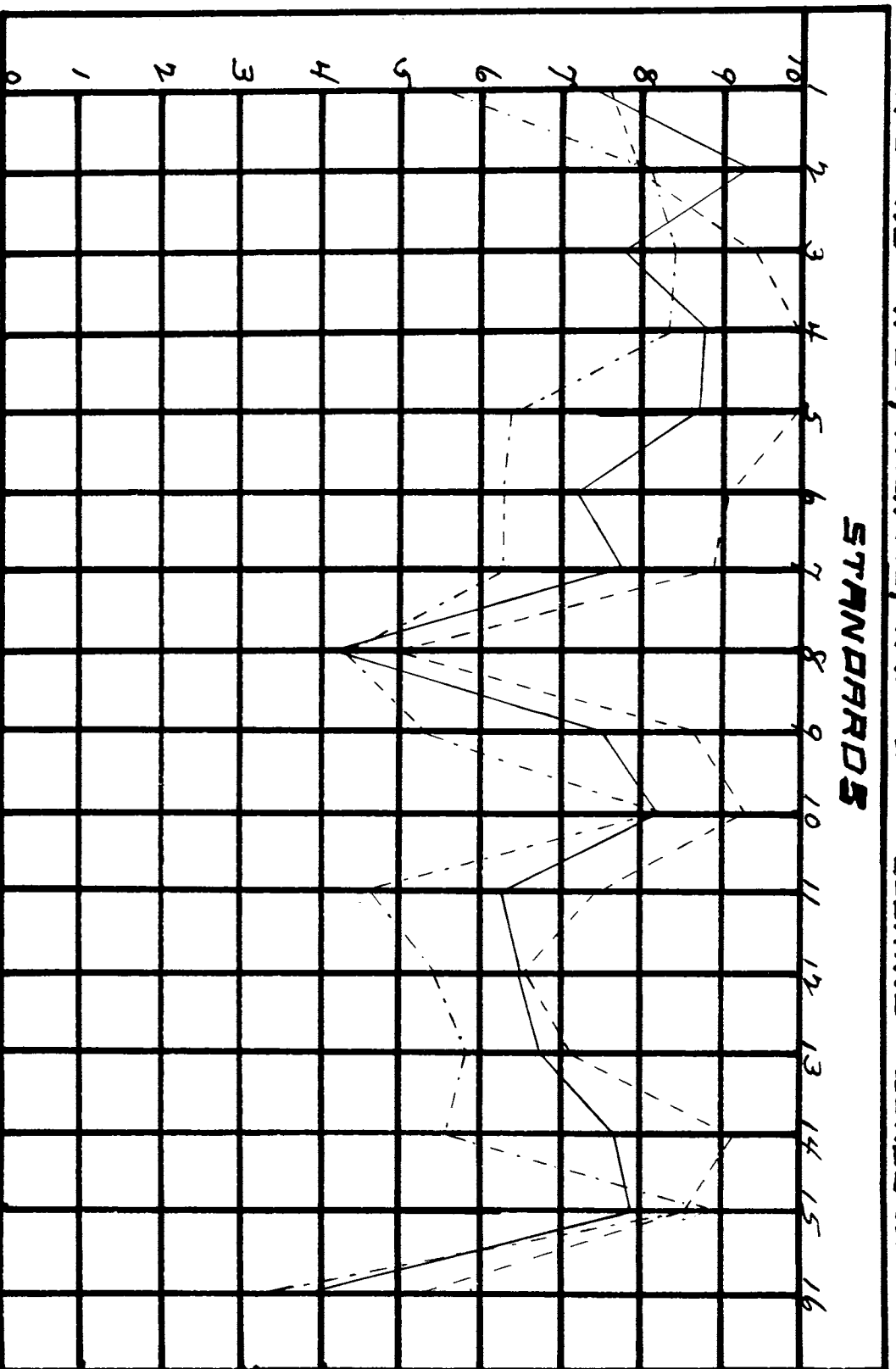
None. :No. 1. Time of entering
: class, rating 3.7.

:No. 2. Time of leaving
: class, rating 3.7.

:No. 3. Instruction on indi-
: vidual basis, rating 3.8.

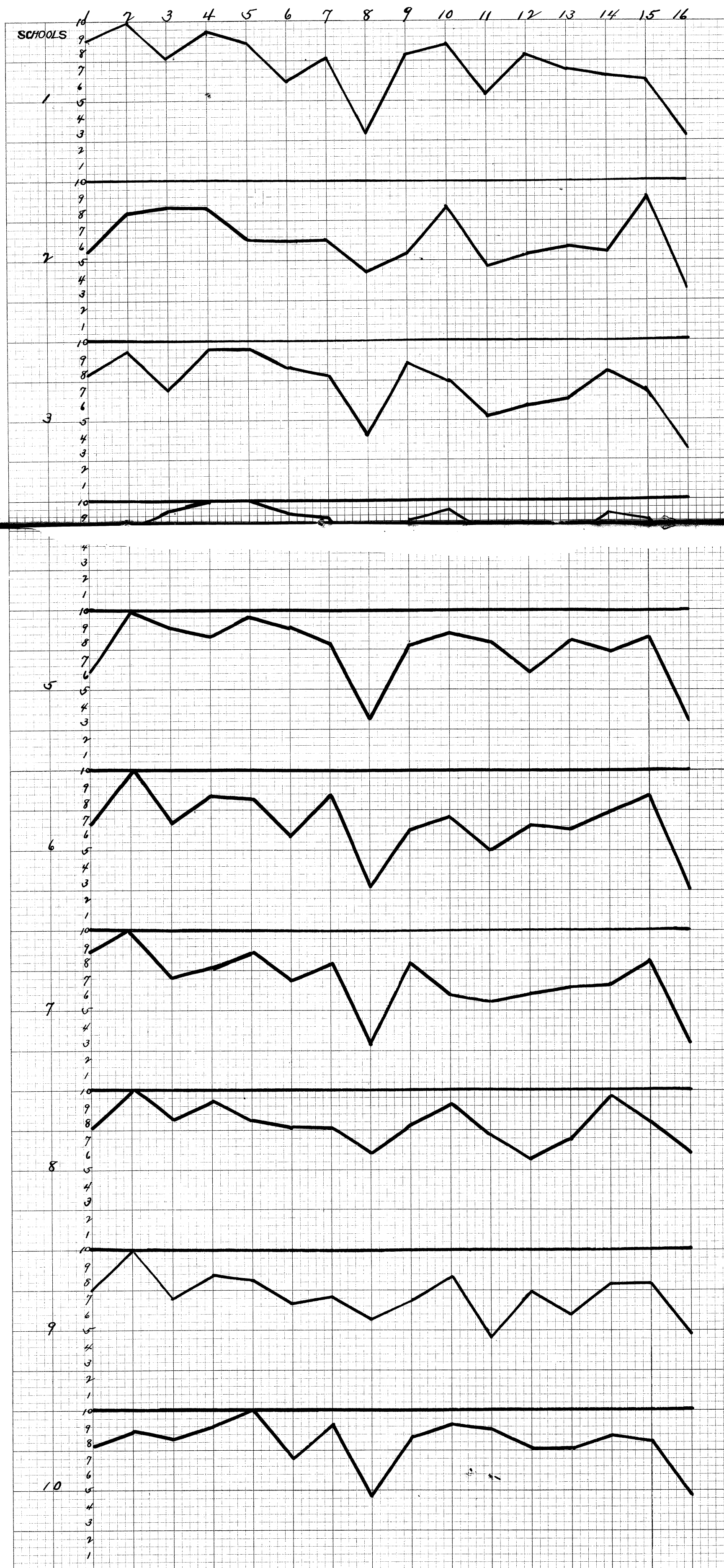
:No. 4. Student's choice of
: subject, rating 4.2.

GRAPH SHOWING HIGH, AVERAGE, AND LOW SCORING SCHOOLS



SCORES - HIGH -----, LOW -----, AVERAGE ———

STANDARDS



UNIVERSAL CROSS SECTION

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VII

IMPROVING THE PROGRAMS

The first weak point in the programs studied is found to be testing point No. 5 in Standard I: i.e., Previous Schooling of Pupil. This testing point called for the completion of the tenth grade for the basis of admission of the pupil to the vocational agricultural class. The purpose of setting the standard so high on this testing point was that the boy at the end of a two-year course in vocational agriculture (this being the length of most of the courses in vocational agriculture in the programs studied) would be leaving school and going onto a farm. Thus the training he received in agriculture would be put to use immediately; whereas, if he took the agricultural work in his first two years of high school, this information would be practically "cold storage" information until he finished school.

The next weak point we find in Standard VIII. By the analysis of the testing points in this standard we find the time for entering and leaving the class and the use of individual instruction scores very low. The individual needs of the learner are not considered as they should be, both in the time that he is able to attend school and in his own individual problems while in school. As to the time of entering and leaving the class, this is regulated somewhat by the administration of the school. However, it was found in one case in particular that pupils were allowed to enter the

class at practically any time, to stay as long as they could, and that the instruction varied to meet the individual needs. This may be looked upon as part-time work, but it is done in connection with the all-day class. In this case the all-day classes were small. Where the classes are unduly large, this would place a great burden on the teacher; however we find listed in our strong points the one indicating that most of the programs rated are not overloaded with pupils per class.

There is a great overlapping in the case of Standard VIII (Training Meets the Needs of the Learners), Standard XI (Training Is Adapted to the Particular Characteristics of the Learner), and Standard XVI (Administration of the Training Program Is Elastic). For this reason we find the weak points in these three standards to be much the same and are discussed above under Standard VIII.

In Standard XII we find the first weak point to be No. 3: i.e., Degree to Which Habits Are Fixed Thru Continuation Work. By this it is evident that the jobs studied in class and done in the projects are not continued over a sufficient period of time thru continuation projects to thoroughly fix them in the pupil's mind. If the pupil was getting his vocational agricultural training in his last two years of high school, this would not be so essential. He would at the completion of his two years of project work go

directly into farming, and at the most only one year would elapse between the project practice and his going into farming. As pointed out above, most of the instruction in vocational agriculture in the programs studied is given in the first two years of high school. This indicates that continuation projects must be carried on by the boys if right habits are to become fixed.

Summarizing the suggestions for the improving of the ten vocational agricultural all-day programs studied::

1. Where but two years work is given in vocational agriculture, it would be of more value to the boys taking the work if it were given in the last two years of the high school course.
2. Continuation projects should be used more, especially if the work continues to be given in the first two years of high school.
3. A more elastic program should be developed so that boys can enter and leave the class at any time during the school year.
4. Individual instruction should be used to a much greater extent (not a hundred percent perhaps), but to a far greater extent than it is used at the present time.

VIII

BIBLIOGRAPHY

Where quotations are used in this paper, specific sources are indicated in foot notes. The following list of references deals to some extent with the problem in hand.

1. Administration of Vocational Education, J. C. Wright and Charles R. Allen (John Wiley & Sons, Inc.).
2. "Cardinal Principles of Secondary Education," Bulletin 1918, No. 35, United States Bureau of Education.
3. Curriculum Construction, W. W. Charters (The Macmillan Co.).
4. Efficiency in Vocational Education in Agriculture, G. A. Schmidt (The Century Co.).
5. How to Make a Curriculum, Franklin Bobbitt (Houghton Mufflin Co.).
6. "Principles in Making Vocational Courses of Study in Agriculture in High Schools," Bulletin 98, Federal Board for Vocational Education.
7. Supervision of Vocational Education, J. C. Wright and Charles R. Allen (John Wiley & Sons, Inc.).
8. Vocational Education in a Democracy, Charles A. Prosser and Charles R. Allen (The Century Co.).

APPENDIX A

RATING CHARTS FOR THE SIXTEEN STANDARDS

The set of sixteen Rating Charts shown here give the testing and sub-testing points for the sixteen standards. They also show the rating for the testing points and the score on each standard for the school rated.

This set shows the ratings and scores for School No. 4. This school had the highest total score of the ten schools rated.

RATING CHART NO. 1.

SCHOOL NO. 4.

Evaluating the Degree to Which There Is a Selected Group

Testing Points	: :Compar- :ative :Value	: :Rat- :ing :	:Product of :Rating by :Compara- :tive Value
1. Vocational aim of pupils.....:	10	7.5:	75
a. Do pupils expect to become farmers? :	:	:	:
2. Interest of pupils in training...:	10	8. :	80
a. Are the trainees interested in: the training? :	:	:	:
3. Pupil facility for supervised practice.....:	10	9. :	90
a. Do pupils live on farms? :	4	:	:
b. Do pupils have facilities for supervised practice work? :	6	:	:
4. Occupational experience of trainee.....:	8	7.5:	60
a. Have trainees been reared on farm? :	:	:	:
5. Previous schooling.....:	6	3. :	18
a. Is the completion of the 10th grade the basis of admission to class? :	:	:	:
6. Age of pupils.....:	4	10. :	40
a. Is 14-years the minimum age for those entering the training course? :	2	:	:
b. Is average age of pupils not less than sixteen years? :	2	:	:
Sum of products obtained by multiplying the ratings by the comparative values.....:			363
Sum of comparative values.....:			48
Score on standard.....:			7.6

RATING CHART NO. 2.

SCHOOL NO. 4.

Evaluating the Degree to Which the Instructor is Occupation-
ally Competent

Testing Points	Comparative Value	Rating	Product of Rating by Comparative Value
1. His practical farm experience.....	10	10.	100
a. Has he had a minimum of two years farm experience?	6		
b. Has he had a minimum of two years club or project work?	4		
2. Nature of his farm experience.....	8	5.	40
a. Has he managed his own farm or that of another?	4		
b. Has his experience been in general farming?	4		
3. His training in technical agriculture.....	10	10.	100
a. Has his training been in general agriculture?	5		
b. Does he attempt to keep abreast of farming methods?	5		
4. His professional training.....	8	10.	80
a. Has he had 20-hrs. of professional training?	4		
b. Has he taught two years?	4		
5. His training and experience in farm mechanics.....	10	5.	50
a. Nature of training--special methods and 2 other classes.	5		
b. Has he had experience in:	5		
Constructing simple buildings:			
Making small wood appliances:			
Blacksmithing. Leather Work.			
Farm Machinery. Concrete.			
Sum of products obtained by multiplying the ratings by the comparative values.....			370
Sum of comparative values.....			46
Score on standard.....			8.0

RATING CHART NO. 3.

SCHOOL NO. 4.

Evaluating the Degree to Which the Training Environment Resembles the Working Environment

Testing Points	Comparative Value	Rating	Product of Rating by Comparative Value
1. The nature of the lessons.....	10	10.	100
a. Are they based on farm jobs?	5		
b. Are they farm jobs practiced in the community?	5		
2. Resemblance of boys' projects to real farm enterprises.....	10	7.5	75
a. Are the projects in the important economic farm enterprises of the community?	5		
b. Does the scope of the project meet the 270 hours requirement?	5		
3. Use made of farms in community....	8	10.	80
a. Are 12 field trips made yearly?			
4. Nature of the school farm shop....	6	10.	60
a. Is the shop equipment adequate for jobs that should be taught?	3		
b. Are the jobs taught based on a farm survey?	3		
5. Appearance and equipment of agricultural rooms.....	4	10.	40
a. Is the equipment such as will be used on farms?	2		
b. Does the general appearance of the room indicate that agriculture is being taught in it?	2		
Sum of products obtained by multiplying the ratings by the comparative values.....			355
Sum of comparative values.....			38
Score on standard.....			9.4..

RATING CHART NO. 4.

SCHOOL NO. 4.

Evaluating the Degree to Which the Teaching Content Directly
Functions in the Work for Which the Pupil Is Being
Trained

Testing Points	: :Compar- : ative : Value	: :Rat- : ing : Value	:Product of : Rating by : Compara- : tive Value
1. The nature of the subject matter.:	10	:10.	: 100
a. Is the subject matter such	:	:	:
that it directly functions in	:	:	:
the farm enterprises and jobs	:	:	:
of the specific farming occu-	:	:	:
pation for which the pupils	:	:	:
are being trained?	:	:	:
2. Method of determining the enter-	:	:	:
prises.....	10	:10.	: 100
a. Are enterprises based on farm	:	:	:
survey of community?	:	:	:
3. Method of determining the jobs in:	:	:	:
the enterprises.....	10	:10.	: 100
a. Has a job analysis been made	:	:	:
for each enterprise taught?	: 5	:	:
b. Are the jobs selected for	:	:	:
class instruction such that	:	:	:
will give the best possible	:	:	:
training to the class as a	:	:	:
whole?	: 5	:	:
4. Nature of lesson units.....	5	:10.	: 100
a. Are lesson units based on real:	:	:	:
farm jobs?	:	:	:
Sum of products obtained by multiplying the rat-	:	:	:
ings by the comparative values.....	:	:	: 350
Sum of comparative values.....	:	:	: 35
Score on standard.....	:	:	: 10.

RATING CHART NO. 5.

SCHOOL NO. 4.

Evaluating the Degree to Which the Content of the Training
Is Obtained from Reliable Sources

Testing Points	: Compar- ative Value	: Rat- ing	: Product of Rating by Compara- tive Value
1. Farmers consulted in getting content.....	10	10.	100
a. Do you consult with successful farmers in community on teaching content?			
2. Use of State Experiment Station bulletins.....	8	10.	80
a. Are these bulletins used in analyzing jobs?	4		
b. Is there a sufficient supply available for use of boys?	4		
3. Use of State Extension bulletins..	8	10	80
a. Are these bulletins used in analyzing jobs?	4		
b. Is there a sufficient supply available for use of boys?	4		
4. Use of U.S.D.A. bulletins.	8	10	80
a. Are these bulletins used in analyzing jobs?	4		
b. Is there a sufficient supply available for use of boys?	4		
5. Use of text and reference books..	6	10	60
a. Are books used up-to-date?	3		
b. Are they suitable for your conditions?	3		
6. Use of reliable analyses.....	4	10	40
a. Are reliable analyses used?			
Sum of products obtained by multiplying the ratings by the comparative values.....			440
Sum of comparative values.....			44
Score on standard.....			10.

RATING CHART NO. 6

SCHOOL NO. 4.

Evaluating the Degree to Which the Training in a Vocational
Agriculture Program Is Given on Actual Jobs

Testing Points	: :Compar- : ative : Value	: :Rat- :ing :	:Product of : Rating by : Compara- : tive Value
1. Nature of basic units of instruction in agriculture.....	10	9.5	95
a. Are exercises used? (2)			
b. Are psuedo jobs used? (6)			
c. Are real farm jobs used? :10			
2. Nature of basic units of instruction in farm shop.....	10	7.5	75
a. Are exercises used? (2)			
b. Are psuedo jobs used? (6)			
c. Are real farm jobs used? :10			
3. Nature of the real farm jobs.....	10	10.	100
a. Are they in connection with a project or other supplementary farm practice?			
4. Nature of method of teaching related and general information..	5	10.	50
a. Is this information taught in connection with real farm jobs?			
Sum of products obtained by multiplying the ratings by the comparative values.....			320
Sum of comparative values.....			35
Score on standard.....			9.1

RATING CHART NO. 7.

SCHOOL NO. 4.

Evaluating the Degree to Which the Training Jobs Are Carried
on in the Same Way as in the Occupation

Testing Points	: :Compar- : active : Value	: :Rat- :ing :	:Product of : Rating by : Compara- : tive Value
1. Scope and nature of projects.....	10	7.	70
a. Is the scope sufficiently large that the jobs can be carried on as in the best farm practice?	5		
b. Are jobs of the same nature as those in the best community practice?	5		
2. Scope and nature of supplementary farm practice work.....	8	10.	80
a. Is work of sufficient scope that the jobs can be carried on as in the best community practice?	4		
b. Are the jobs of the same nature as in the best community practice?	4		
3. Scope and nature of the training in farm mechanics.....	8	9.	72
a. Is this training given under same conditions as actual farm practice?	4		
b. Is it according to standard practice?	4		
4. Nature of thinking habits.....	10	10.	100
a. Are problems considered real management problems?	5		
b. Are pupils permitted to think problems out for themselves?	5		
Sum of products obtained by multiplying the ratings by the comparative values.....			322
Sum of comparative values.....			36
Score on standard.....			8.9

RATING CHART NO. 8.

SCHOOL NO. 4.

Evaluating the Degree to Which the Training Meets the Needs
of the Learners

Testing Points	: :Compar- : ative : Value	: :Rat- :ing :	:Product of : Rating by : Compara- : tive Value
1. Class entrance requirement.....:	10	2.	20
a. Can pupil enter class at any time and still get credit for the work he does? :	:	:	:
2. Time of leaving the class.....:	10	2.	20
a. Can pupil leave class at any time and still get credit for the work he has done? :	:	:	:
3. Use of individual instruction....:	10	7.	70
a. Is a definite time set aside for individual instruction each week? :	5	:	:
b. To what degree is individual instruction used? :	5	:	:
4. Nature of class room problem solving.....:	8	10	80
a. Are they the boys' problems? :	:	:	:
Sum of products obtained by multiplying the rat- : ings by the comparative values.....:			190
Sum of comparative values.....:			38
Score on standard.....:			5

RATING CHART NO. 9.

SCHOOL NO. 4.

Evaluating the Degree to Which the Training Helps the Individual to Capitalize His Interests and Abilities

	Comparative Value	Rating	Product of Rating by Comparative Value
1. Interest of pupils in the training.....	10	8.5	85
a. Are pupils interested in training?	5		
b. Did pupils elect this training because of their own interest in it?	5		
2. Aptitudes of pupils in the training.....	10	10.	100
a. Do the pupils have the natural aptitude for carrying out this training?	5		
b. Are the aptitudes of the pupils benefited by the training?	5		
3. Organization of instruction to meet individual needs and abilities.....	10	8.5	85
a. Is the instruction on an individual basis?	4		
b. Does the instruction meet the needs of the pupils?	3		
c. Is the instruction such that it will meet the abilities of the pupils?	3		
4. Profit to pupils by training.....	8	7.5	60
a. Are pupils making use of the training?			
Sum of products obtained by multiplying the ratings by the comparative values.....			330
Sum of comparative values.....			38
Score on standard.....			8.7

RATING CHART NO. 10

SCHOOL NO. 4.

Evaluating the Degree to Which the Learner Is Trained Specifically in the Manipulative Habits and in the Thinking Habits Required in the Occupation

Testing Points	: :Compar- : ative : Value	: :Rat- :ing :	:Product of : Rating by : Compara- : tive Value
1. Type of training given.....:	10	:10.	: 100
a. Is training in managerial jobs: given? :	5	:	:
b. Is training in operative jobs : given? :	5	:	:
2. Training in manipulative habits...:	10	: 9.	: 90
a. Is this done on jobs that fun- ction in best community prac- tice? :	5	:	:
b. Is this training systematized?:	5	:	:
3. Training in thinking habits.....:	10	: 9.	: 90
a. Is this done on jobs that fun- ction in best community prac- tice? :	5	:	:
b. Is this training systematized?:	5	:	:
4. The objectives of the instruction:	10	:10.	: 100
a. Do they aim to give training : in specific type of farming? :	4	:	:
b. Do they aim to develop increa- sed doing ability in the pro- duction of the important pro- ducts of the community? :	3	:	:
c. Do they aim to develop the ability to dispose of the pro- duction? :	3	:	:
Sum of products obtained by multiplying the rat- : ings by the comparative values.....:			380
Sum of comparative values.....:			40
Score on standard.....:			9.5

RATING CHART NO. 11.

SCHOOL NO. 4.

Evaluating the Degree to Which the Training Is Adapted to the
Particular Characteristics of the Learners

Testing Points	: :Compar- : ative : Value	: :Rat- : ing : Compara- : tive Value	: :Product of : Rating by : Compara- : tive Value
1. Needs of pupil.....	10	8.	80
a. Does the instruction serve the: need of the pupil in project work?	: : : 6	: : :	: : :
b. Does the instruction serve the: need of the pupil in suplemen- tary farm practice?	: : : 4	: : :	: : :
2. Use of individual instruction....	10	7.	70
a. To what degree is individual instruction used?	: : 5	: : :	: : :
b. Is individual instruction of the "pusher" type?	: : 5	: : :	: : :
Sum of products obtained by multiplying the rat- ings by the comparative values.....			150
Sum of comparative values.....			20
Score on standard.....			7.5

RATING NO. 12.

SCHOOL NO. 4.

Evaluating the Degree to Which the Training Experiences Are
Repeated Until Right Habits Are Fixed

Testing Points	Comparative Value	Rating	Product of Rating by Comparative Value
1. Degree to which right thinking habits are fixed.....	10	9	90
a. Do the pupils have sufficient practice in solving managerial jobs to cause them to become habits?	5		
b. What degree of skill do the boys show in solving managerial problems?	5		
2. Degree to which right manipulative habits are fixed.....	10	9	90
a. Do the pupils have sufficient practice in jobs to cause them to become habits?	5		
b. What degree of skill do the boys show in doing operative jobs?	5		
3. Degree to which habits are fixed thru continuation work.....	10	2.1	21
a. What percentage of boys carry continuation projects?	6		
b. What percentage of boys carry continuation supplementary farm practice work?	4		
4. Degree to which habits of acquiring needed information are developed.....	6	6	36
a. Do pupils seek out information for themselves?	6		
Sum of products obtained by multiplying the ratings by the comparative values.....			237
Sum of comparative values.....			36
Score on standard.....			6.7

RATING CHART NO. 13.

SCHOOL NO. 4.

Evaluating the Degree to Which the Training Is Carried to the Point Where It Gives the Trainee a Productive Ability Essential to Success in the Occupation

Testing Points	: :Compar- :ative : Value	: :Rat- :ing :	:Product of : Rating by : Compara- : tive Value
1. Informational standard.....	5	6	30
a. Does the pupil master that in which he receives training?	5		
2. Supplementary farm practice.....	6	7.5	45
a. Does the boy use the right practices in general farm work?	6		
3. Project standard.....	10	7.5	75
a. Is a definite productive standard used to measure the efficiency of the project work?	5		
b. Is the pupil successful in his projects, both in production and in financial returns?	5		
Sum of products obtained by multiplying the ratings by the comparative values.....			150
Sum of comparative values.....			21
Score on standard.....			7.1

RATING CHART NO. 14.

SCHOOL NO. 4.

Evaluating the Degree to Which the Training Meets the Market
Demands of the Occupation

Testing Points	Comparative Value	Rating	Product of Rating by Comparative Value
1. Method of determining the training content.....	10	10	100
a. Is farm survey used?	5		
b. Is advice of best farmers sought in determining content?	5		
2. Nature of habits developed.....	10	10	100
a. Are the manipulative habits developed which are used by the successful farmers of community?	5		
b. Are the thinking habits developed which are used by the successful farmers of the community?	5		
3. Nature of the supervised project work.....	8	7.5	60
a. Are the projects in the farm enterprises of community importance?	4		
b. Are the boys taught to conduct the projects as the successful farmers of the community conduct them?	4		
4. Nature of the training in farm mechanics.....	8	9	72
a. Is the farm survey used in determining content of mechanical training?	4		
b. Is training given with tools and equipment such as successful farmers in community use?	4		
5. Development of potential enterprises.....	6	9	54
a. Is there a real need for these?	6		
Sum of products obtained by multiplying the ratings by the comparative values.....			386
Sum of comparative values.....			42
Score on standard.....			9.2

RATING CHART NO. 15.

SCHOOL NO. 4.

Evaluating the Degree to Which the Funds Expended on the
Training Are Sufficient to Permit the
Doing of an Efficient Job

Testing Points	Comparative Value	Rating	Product of Rating by Comparative Value
1. The instructor's salary.....	10	6	60
a. Is the minimum teacher's salary \$2000?	6		
b. Is there a chance for salary advancement?	4		
2. The class room and equipment.....	10	10	100
a. Is the room sufficiently large?	4		
b. Is there adequate blackboard space, library facilities, tables, chairs?	3		
c. Is there adequate laboratory equipment?	3		
3. The school shop and equipment.....	8	10	80
a. Is the room sufficiently large?	3		
b. Is the room conveniently arranged--double doors, car pit, permit of necessary noise?	2		
c. Has it adequate equipment for work to be performed?	3		
4. Number of pupils per teacher.....	8	7.5	60
a. Is the maximum number of pupils per class twenty or less?	4		
b. Is instructor expected to have not more than the equivalent of two all-day agricultural classes?	4		
5. Compensation for use of car in project supervision.....	6	10	60
a. Not less than ten cents per mile?	6		
Sum of products obtained by multiplying the ratings by the comparative values.....			360
Sum of comparative values.....			42
Score on standard.....			8.6

RATING CHART NO. 16.

SCHOOL NO. 4.

Evaluating the Degree to Which the Administration of the
Training Program Is Elastic

Testing Points	Comparative Value	Rating	Product of Rating by Comparative Value
1. Time of entering class.....	10	2	20
a. Can boy enter class when he wants to and receive credit for the work he completes?			
2. Time of leaving class.....	10	2	20
a. Can boy leave class when he wants to and receive credit for the work he has completed?			
3. Instruction on an individual basis.....	10	7	70
a. Is individual instruction used:			
4. Choice of subjects taken.....	10	10	100
a. Is the pupil allowed to choose the subjects he takes?			
Sum of products obtained by multiplying the ratings by the comparative values.....			210
Sum of comparative values.....			40
Score on standard.....			5.2

APPENDIX B

RATING AND SCORE CHART OF EACH SCHOOL IN EACH OF THE SIXTEEN STANDARDS

This chart shows the rating, or score, of each of the ten schools in each of the sixteen standards. It also shows the sum of the ratings on all the standards for each school.

The final score, or average rating, of each school rated is shown. This is arrived at by dividing the sum of the sixteen ratings by sixteen, the number of ratings.

RATING AND SCORE OF EACH SCHOOL IN EACH OF THE SIXTEEN STANDARDS

Standards:	Schools									
	1	2	3	4	5	6	7	8	9	10
I	8.8:	5.6:	7.9:	7.6:	6.2:	6.6:	8.7:	7.6:	7.5:	7.8:
II	10.0:	8.1:	9.4:	8.0:	10.0:	10.0:	10.0:	10.0:	10.0:	8.6:
III	7.7:	8.4:	7.0:	9.4:	8.8:	6.6:	7.1:	8.2:	7.0:	8.2:
IV	9.1:	8.3:	9.4:	10.0:	8.3:	8.3:	7.7:	9.3:	8.3:	9.0:
V	8.7:	6.4:	9.5:	10.0:	9.5:	8.2:	8.6:	8.1:	8.1:	10.0:
VI	6.1:	6.3:	8.3:	9.1:	8.8:	5.7:	6.8:	7.6:	6.6:	7.0:
VII	7.6:	6.3:	7.8:	8.9:	7.8:	8.3:	7.9:	7.6:	7.0:	9.1:
VIII	3.0:	4.3:	4.1:	5.0:	3.1:	2.7:	2.9:	6.1:	5.6:	4.6:
IX	7.9:	5.4:	8.5:	8.7:	8.0:	6.2:	8.0:	7.9:	6.8:	8.3:
X	8.5:	8.3:	7.4:	9.3:	8.5:	7.0:	6.0:	9.1:	8.3:	9.2:
XI	5.5:	4.7:	5.2:	7.5:	8.0:	5.0:	5.7:	7.2:	4.5:	8.8:
XII	7.8:	5.3:	5.9:	6.7:	6.2:	6.7:	6.0:	5.7:	7.3:	7.6:
XIII	7.0:	5.8:	6.3:	7.1:	8.0:	6.3:	6.5:	6.9:	5.9:	7.7:
XIV	6.6:	5.6:	8.1:	9.2:	7.4:	7.4:	6.6:	9.7:	7.9:	8.4:
XV	6.4:	8.9:	6.8:	8.6:	8.3:	8.4:	3.1:	7.9:	7.9:	8.1:
XVI	2.8:	3.2:	3.2:	5.2:	3.0:	2.5:	3.0:	6.0:	4.8:	4.7:
Total										
Rating	114	101	115	130	120	106	110	125	114	127
Score	7.1	6.3	7.2	8.1	7.5	6.6	6.8	7.8	7.1	7.9

APPENDIX C

AVERAGE RATING OF EACH TESTING POINT IN EACH STANDARD AND AVERAGE RATING OF EACH STANDARD

The following chart shows the average rating of each testing point in each of the sixteen standards. This was arrived at by adding together the rating of each testing point in each of the ten schools and dividing by ten.

The average rating of each standard is also shown in this chart. This was secured by adding the rating of each standard in the ten schools (as given in Appendix B) and dividing by the number of schools.

The grand average of all ten schools in all the sixteen standards is also given.

AVERAGE RATING OF EACH TESTING POINT IN EACH STANDARD
AND AVERAGE RATING OF EACH STANDARD

Standards:	1	2	3	4	5	6	: Standard Average
I	: 7.1	: 7.1	: 7.9	: 8.0	: 4.2	: 8.5	: 7.4
II	: 9.7	: 8.3	: 10.0	: 8.7	: 10.0	:	: 9.4
III	: 8.7	: 7.2	: 7.6	: 7.7	: 8.8	:	: 7.8
IV	: 8.2	: 8.7	: 9.4	: 8.9	:	:	: 8.8
V	: 7.8	: 9.7	: 9.7	: 9.7	: 6.7	: 8.0	: 8.7
VI	: 7.3	: 7.0	: 7.2	: 7.2	:	:	: 7.2
VII	: 7.4	: 7.8	: 8.3	: 7.8	:	:	: 7.8
VIII	: 3.2	: 2.6	: 4.6	: 6.9	:	:	: 4.1
IX	: 8.6	: 8.2	: 6.4	: 6.7	:	:	: 7.6
X	: 9.0	: 8.1	: 6.6	: 8.0	:	:	: 8.2
XI	: 7.2	: 5.4	:	:	:	:	: 6.2
XII	: 6.9	: 7.1	: 5.5	: 5.5	:	:	: 6.5
XIII	: 7.1	: 6.8	: 6.8	:	:	:	: 6.8
XIV	: 8.2	: 7.8	: 8.0	: 6.9	: 8.7	:	: 7.7
XV	: 7.7	: 7.1	: 7.6	: 8.6	: 9.8	:	: 7.9
XVI	: 3.7	: 3.7	: 3.8	: 4.2	:	:	: <u>3.8</u>
							<u>115.9</u>
Average of all standards							<u>7.2</u>