

ABSTRACT OF THESIS

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TRADE AND INDUSTRIAL  
TEACHER-TRAINING PROGRAMS FOR NEGROES  
IN THE SOUTHERN REGION

Submitted by  
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In partial fulfillment of the requirements  
for the Degree of Master of Education  
Colorado State College  
of  
Agriculture and Mechanic Arts  
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## A B S T R A C T

### The problem

With rapid changes in industry and new demands on the industrial education curricula, it is important that preparation be made to meet them in vocational teacher-training colleges. The central problem, therefore, resolves itself into, "What Types of Teacher-Training Programs in Trade and Industrial Education are Necessary for Negroes in the Southern Region?"

### The method

Questionnaires were devised and sent to Negro teacher-trainers in the eight states of the Southern Region, and to trade teachers in the Negro colleges. State directors of trade and industrial education were contacted through mail for data on state plans. Information was secured from catalogues of Negro teacher-training colleges, and through personal contact with teacher-trainers in four states.

The study of this problem received its direction from an analysis of the problem which revealed the following subordinate questions:

- A. What is being taught in trade and industrial

divisions of the state departments of vocational education or in schools designated for that purpose?

- B. What type and size of shops are used for training teachers?
- C. What equipment is available in teacher-training shops?
- D. What are the state requirements for trade and industrial teachers?
- E. What positions do the graduates obtain?
- F. What combination of duties and responsibilities do teachers report?
- G. How have teacher-training curricula been modified in the light of reports of teachers?
- H. What are the state requirements for teacher-training?
- I. What should comprise a teacher-training program for Negro trade and industrial teachers?

### Findings and interpretations

The findings and interpretations are presented in three parts: the curriculum, the duties and responsibilities of trade and industrial teachers, and the shops and equipment available for training teachers. The total curriculum pattern was determined by securing answers to questions A, "What is being taught in trade and industrial divisions of the state departments of vocational education or in schools designated for that

purpose?" and H, "What are the state requirements for training teachers?"

The total curriculum is divided into an academic pattern, a shop pattern, and a professional pattern.

The state requirements vary with different states but in all cases are set to meet the minimum federal requirements. The requirements of the eight states are in general agreement with minimum standards of 35.2 semester hours of academic training, including English, 12; mathematics, 6; and sciences, 17; the remainder being elective subjects. High school graduation is required in Louisiana. Forty-five semester hours of shop training are required in one craft, and 23 semester hours of professional training must be chosen from: trade analysis, curriculum construction, methods, practice teaching, operation analysis, principles, management and safety, guidance, industrial sociology, and psychology. Tables 18, 19, and 20 show the average pattern for the eight colleges and a comparison with the pattern of Southern University.

The academic and professional patterns at Southern University are adequate in comparison with averages from other colleges, requirements of the other states, and requirements of Louisiana in particular. The shop pattern at Southern University provides for thorough preparation in the major field with 45

Table 18.--PATTERNS OF ACADEMIC SUBJECTS FOR TRADE AND INDUSTRIAL EDUCATION MAJORS, SHOWN IN SEMESTER HOURS

Subject	Average All Colleges	Southern University	Differences
English	11.25	12	+0.75
Mathematics	7.50	6	-1.50
Sciences	16.42	17	+0.58
Total required subjects	35.17	35	-0.17
Total electives	35.6	31	-4.6
Total required and elective subjects	70.67	66	-4.67

Table 19.--PATTERN OF SHOP SUBJECTS FOR TRADE AND INDUSTRIAL EDUCATION MAJORS, SHOWN IN SEMESTER HOURS

Subject	Average All Colleges	Southern University	Differences
Automobile mechanics	36.8	45	+8.2
Woodwork and carpentry	36.8	45	+8.2
Tailoring	36.8	45	+8.2
Printing	36.8	45	+8.2
Brick masonry	36.8	0	0.0
Painting	36.8	0	0.0
Electricity	36.8	0	0.0
Total	36.8	45	+8.2

Table 20.--PATTERN OF PROFESSIONAL SUBJECTS FOR TRADE AND INDUSTRIAL EDUCATION MAJORS, SHOWN IN SEMESTER HOURS

Subject	Average All Colleges	Southern University	Differences
Shop organization and management	2.30	2	-0.30
Methods in industrial education	3.60	3	-0.60
Organization of content	2.00	0	-2.00
Observation and practice teaching	3.50	6	+2.50
Principles of vocational education	3.00	0	-3.00
Vocational guidance	2.20	3	+0.80
History of industrial education	2.80	3	+0.20
Trade and job analysis	2.80	3	+0.20
Administration of vocational education	3.00	0	-3.00
Educational psychology	2.80	3	+0.20
Objectives and problems of vocational education	2.00	0	-2.00
Vocational education seminar	3.00	0	-3.00
Tests and measurements in industrial education	2.00	0	-2.00
Program of shop planning	2.00	0	-2.00
Total	37.00	23	-14.00

semester hours requirement which is eight and two-tenths semester hours above the average. However, Southern University does not give training in masonry and electricity, whereas five of the eight colleges give training in the masonry and electrical trades. The addition of training in these trades seems warranted.

The duties and responsibilities of trade and industrial teachers, as shown in Tables 4-6, were determined from answers to questions E, "What positions do graduates obtain?", D, "What are the state requirements for trade and industrial teachers?", F, "What combination of duties and responsibilities do teachers report?", and G, "How have teacher-training curricula been modified in the light of reports by teachers?"

Table 4 shows that in the past four years 27 persons graduated from the trade and industrial education division of Southern University. Nine of these persons became teachers of trade subjects, one became a teacher of industrial arts, seven entered trade work, and ten joined the armed forces. The first class to graduate from this division was in 1941. This placement picture is rather unusual due to war conditions.

Table 5 reveals that state requirements for trade experience vary from two to seven years, and that apprenticeship requirements vary from zero to four years. Louisiana requires six years of trade experience for certification.

Trade and industrial majors receive credit for three years trade experience upon graduation, which leaves them three years short of meeting the six year requirement for certification. At present, many of the graduates must enter the trade upon graduation to get three additional years of trade experience. A provision should be made whereby graduates will have six years trade experience when they are graduated so they may begin teaching immediately.

Table 6 shows that regular teaching duties are performed by trade and industrial teachers as follows: 31 teach a trade, 31 teach related subjects, 12 do maintenance work, and six take in community work. Twelve of the 31 teachers conduct one extra-curricular activity in addition to trade teaching as follows: six coach athletics, three sponsor Boy Scout troops, two sponsor clubs, and one instructs the band.

Assistance from other college departments and specialists is needed to help trade teachers develop acceptable competence for extra-curricular assignments.

Question G, "How have teacher-training curriculum been modified in the light of reports of teachers?" The oldest graduates of the trade and industrial education division of Southern University have been out only four years. During that period, the war caused many unusual situations, and practically no criticisms or suggestions were obtained from graduates

in the field. This represents a shortcoming which should be overcome so curricula can be modified and kept up to date.

Information on shops and equipment available for training teachers was secured from answers to questions B, "What type and size of shops are used for training teachers?" and C, "What equipment is available in teacher-training shops?" Tables 7 and 8, pages and , show that of the eight colleges, seven had brick buildings, one had a concrete building, and two had a frame building. The average sizes of these shops were 780 to 2,160 square feet. Adequate sizes for these shops according to Struck (8:323) were 1,000 to 4,500 square feet. In general the shops are too small.

Tables 9-15 present data on shop equipment that is provided by the eight colleges and show the comparison between the averages and the equipment provided by Southern University. It was found that the woodshop lacks a planer and jointer, the masonry and electrical shops need complete equipment, the automobile shop is well equipped, the print shop lacks a proof press, and the tailor shop lacks two sewing machines.

The summary of the recommendations for continuing or changing Southern University's trade and industrial curriculum and shop facilities follows:

1. The present pattern of academic requirements

should be continued without change.

2. Instruction in the masonry trade should be added to the shop pattern, and a masonry teacher should be employed.
3. Instruction in the electrical trade should be added to the shop pattern, and an electric shop teacher should be employed.
4. A prerequisite of three years of trade experience should be established for trade and industrial majors.
5. Assistance should be sought from other college departments and specialists in preparing trade and industrial majors to coach, lead Boy Scout troops, sponsor clubs, and give band instruction.
6. Criticisms and suggestions for improving the teacher-training program should be secured from graduates once each year.
7. Changes should be made in the Southern University Mechanic Arts Building, making one carpenter shop of 3,500 square feet out of the present small carpenter shop and the present automobile shop.
8. A new building should be provided to accommodate an automobile shop with an area of 4,500 square feet; a masonry shop with an area of 3,500 square feet; a tailor shop with an area

of 1,500 square feet; and an electric shop with an area of 3,500 square feet. Such a building should have two stories, be 46 feet wide by 160 feet long, and have a ground floor area of 7,360 square feet. The automobile shop and masonry shop should be on the ground floor.

9. One jointer and one planer should be added to the wood shop equipment.
10. Equipment should be provided for one proposed masonry shop.
11. Equipment should be provided for one proposed electric shop.
12. One proof press should be added to the print shop equipment.
13. Two additional sewing machines should be added to the tailor shop equipment.

Since the proposed patterns for curricula and proposed changes and additions to shops and equipment for Southern University would result in a training program that compares favorably with the patterns of other Negro teacher-training colleges, would meet the needs of graduates, and would provide opportunities for teachers in service to improve their professional standing, it is urged that the recommendations be considered for adoption by the Southern University administration and faculty.

T H E S I S

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August 16, 1944

I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY Jeremiah W. McLeod ENTITLED Trade and industrial teacher-training programs for Negroes in the southern region BE ACCEPTED AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF Education MAJORING IN Trade and Industrial Education CREDITS 5

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Dean of the Graduate School

Permission to publish this thesis or any part of it must be obtained from the Dean of the Graduate School.

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Chapter I  
INTRODUCTION

History and Background of the Study

With rapid changes in industry and new demands on the industrial education curricula, it is important that attention be given to these changes and needs and that preparation be made to meet them through the teacher-training colleges. In the period before 1890, the population was about 60,000,000, and industries were few in comparison with those of today (13:189-91). Since then, the population has been increased by 69,000,000. This increase should enable us to realize that living is becoming a more complicated affair.

Before 1890 very little was done in the public schools to prepare individuals to meet the changes and demands of industry. According to Blauch (3:40-45) the first government act that made provisions for the preparation of industrial teachers was the Morrill Act of 1862. This act provided for the establishment of the land-grant colleges in the various states. The purpose was to promote the liberal and practical education of the industrial classes. This act was the result of the desires of interested educators and

legislators to train the practical man, the farmer, and the industrial worker for whom the states could not provide training. Changes were made in the federal policy to provide grants in aid for specific forms of education instead of general education.

The act made provisions for only one land-grant college for each state; this meant that in the states which subsequently set up segregated educational programs, no provisions were made to accommodate the Negro race. The only Negroes who received such training were those who were financially able and willing to leave these states and finance their own education in other institutions.

In 1890, a second Morrill Act was passed which made it possible for the Negro land-grant colleges, as they are today, to come into existence. These colleges are the state-supported training centers for Negro trade and industrial teachers.

Although the second Morrill Act created these colleges, apparently most of the attention was given to preparing for the trade, with little or no thought given to teacher-training in trade and industrial education.

The writer began work as teacher-trainer of trade and industrial education on September 1, 1937, at the state teacher-training college for Negroes in Louisiana. The immediate need for a teacher-training program presented several problems. Just what should

be offered was not easy to determine. After study of various college curricula and conferences with teachers of the mechanic arts department, the dean, and others concerned, a program was presented. This program was carefully followed, but each year there have been changes. It is evident that changes are to be expected in any educational program, but changes should be made only after sound reasoning and fact-finding. After six years of experience in working with teachers of industrial arts, agriculture, and mechanic arts in a supervisory capacity in the schools of Louisiana and nine years in teaching many of these teachers their trades, the writer may be presumed to have some general knowledge of their needs.

Up to 1937, it was the objective of these colleges to prepare students for the trades rather than to prepare teachers for the industrial departments of the schools of Louisiana, although many of the students became teachers of shop work. Many of these students received their degrees in general education, and some of them became good teachers of shop work.

These and many more experiences and problems have resulted in the selection of the subject, "Trade and Industrial Teacher-Training Programs for Negroes in the Southern Region."

Trade and industrial teacher-training is new in many of the Negro teacher-training colleges, which

is evidence that training trade and industrial teachers has been neglected in these colleges. This neglect means a scarcity of such teachers at a time when they are most needed.

Since the schools are responsible for preparing the youth of the nation to meet the demands of society and to make adjustments to life situations, it is the duty of the teacher-training college, first, to prepare teachers who will in return prepare workers and leaders for industry; and second, to aid the general public in making the needed adjustments in our changing civilization. The following is a statement taken from the President's Committee report of 1938 as given by Russell (14:171):

A serious short-coming in the program of training teachers for vocational subjects has been a failure to provide a sufficient supply of teachers to meet the needs of an expanding program. In a majority of the states at present the supply of teachers in each of the three fields of vocational education is inadequate to meet the demand. The expansion contemplated under the George-Dean Act cannot be immediately carried out in most states because of the lack of suitably qualified personnel. It was indeed unfortunate to pass legislation making funds immediately available for vocational training in these largely increased amounts without first having instituted and carried out a plan to prepare the teachers required to staff the expanded program.

The George-Dean Act, which went into effect July 1, 1937, caused increased interest in teacher-training in trade and industrial education in these land-grant colleges. This act provided funds for teacher-training in vocational education. Many of the

southern states took advantage of these funds and employed either part-time or full-time Negro teacher-trainers. Because this program came as late as 1937, educators in this field are still confronted with the question, What should the program be?

In speaking of trade and industrial teacher-training, it is necessary to refer to the upgrading of teachers in service as well as to the regular college teacher-training of students who are preparing for positions as teachers. Teachers in service may be further educated in conferences and short unit courses which may be district meetings, small groups, or state meetings, and through supervision on the job.

The Need for the Study

There have been continual requests for qualified trade and industrial teachers from the states involved in this study. These requests come through personal contacts, telegrams, telephone calls, and letters. The persons making these demands are school superintendents, supervisors, principals, and others concerned. Because they are unable to meet all of these demands, the colleges feel keenly the need for more and better trained teachers.

The economic status of the Negro is low because he has been kept in unskilled labor jobs at low wages. He cannot hope to improve this situation until young people are able to follow the trade of their

choice and to receive the highest possible training through the schools and colleges of the states. It should be the objective of the teacher-training colleges to make the workers better tradesmen through well-prepared teachers.

In the 1942 report of the Louisiana Survey of Negro Education, Charles S. Johnson (5:61) says:

The Negro teacher fills an urgent and important role in the Negro community. It is evident from the description of the present economic and cultural level of the most numerous classes of the Negro population that the school must be the chief medium for equipping the Negro child for constructive society. Where no change is expected and no adjustments to new social and economic circumstances are anticipated, formal education is scarcely necessary. The whole pattern of American society, however, is dynamic with change and development and when there is no preparation for it in any major element of the population, there is danger that the whole society will be affected. Education is in a significant sense, a form of cultural assimilation and this assimilation is not only a function of democratic society but essential to the everyday participation in work on any level of the economic structure.

Teacher-training that is suitable for one group or race is also suitable for another. A complete and independent teacher-training program for Negroes cannot be set up. Their need is the same as that of the white race, but the Negroes have to work under different conditions, with limited shop space, equipment, and teaching material. Because of these limitations, there has been a delay in education which presents a problem that must be worked out through teacher-preparation.

The idea of this study has grown out of an

effort to find information as to what would be a satisfactory trade and industrial teacher-training program for Negroes in Louisiana. It is evident that a more definite teacher-training program should exist and should probably be different in curriculum in order to meet local situations. However, there are several items which it should have in common with other state programs, such as the qualification of teachers, the amount of credit hours and length of term for industrial education subjects, the credit given for laboratory subjects, and the amount of trade experience and training that should be required as a prerequisite to teacher-training.

#### The Problem

The foregoing statements lead to the problem stated as follows:

"What types of teacher-training programs in trade and industrial education are necessary for Negroes in the southern region?"

#### Delimitations of the Study

The study is limited to state teacher-training colleges for Negroes in eight states of the southern region and to Tuskegee Institute in Alabama. Tuskegee Institute is a private college highly equipped and qualified for trade and industrial teacher-training for the state of Alabama. The state headquarters of the

teacher-trainer are at Tuskegee Institute. The following state colleges are represented:

Alabama, Normal and Industrial College, Normal  
Tuskegee Institute, Tuskegee

Arkansas, Agricultural and Mechanical College,  
Pine Bluff

Florida, Agricultural and Mechanical College,  
Tallahassee

Louisiana, Southern University Agricultural and  
Mechanical College, Scotlandville

Mississippi, Alcorn Agricultural and Mechanical  
College, Alcorn

North Carolina, Agricultural and Technical College,  
Greensboro

South Carolina, Agricultural and Mechanical  
College, Orangeburg

Texas, Prairie View Agricultural and Mechanical  
College, Prairie View

#### Analysis of the Problem

The various aspects of this problem are clearly indicated by the subordinate questions which follow:

- A. What is being taught in the trade and industrial divisions of the state departments of vocational education or in schools designated for that purpose?

- B. What type and size of shops are used for training teachers?
- C. What equipment is available in teacher-training shops?
- D. What are the state requirements for trade and industrial teachers?
- E. What positions do the graduates obtain?
- F. What combination of duties and responsibilities do teachers report?
- G. How have teacher-training curricula been modified in the light of reports of teachers?
- H. What are the state requirements for teacher-training?
- I. What should comprise a teacher-training program for Negro trade and industrial teachers?

Answers to the questions listed above will be sought in the research literature on this subject.

## Chapter II

### REVIEW OF RESEARCH

The training of trade and industrial teachers for Negroes has been the subject of experimentation and study since the passage of the Second Morrill Act in 1890. The reports of these investigations contain information that is of value in carrying on further study in this field.

Research findings that relate to question A, "What is being taught in trade and industrial divisions of State departments for vocational education or in schools designated for that purpose?" follow:

Johnson (2), in 1933, made a committee report to the American Vocational Association meeting in Detroit. The report was the result of a study and survey of forty-eight states and the territory of Hawaii. The purpose of this report was to show the method for certification of vocational teachers in the trade and industrial field, and the type of classes and courses which were offered. The method used was a study of the state plans for vocational education in forty-eight states and replies to letters sent to these states. These replies revealed valuable information for the study. Johnson reported as follows:

### Type of Classes:

1. Evening shop classes
2. Evening related technical classes
3. Part-time shop classes
4. Part-time related classes
5. General continuation vocational classes
6. General continuation academic classes
7. All-day shop classes
8. All-day related courses

### Evening Trade Extension Shop Teachers

The different training subjects mentioned in the study made by Johnson are of interest. They follow:

1. Vocational Psychology
2. Teaching trade and industrial subjects
3. Methods and practice teaching
4. Trade analysis
5. Shop organization
6. Shop management
7. Philosophy of vocational education
8. Course construction
9. Principles of vocational education
10. Writing instruction sheets
11. Elements of the instructional process
12. Study of the difficulties
13. Records and reports
14. Use of analysis in planning courses
15. Organization of lesson plans, lesson and job sheets
16. Community survey

### All-day Shop Teachers

Regarding the preparation for all-day shop teachers in forty-one states Johnson makes the following statement:

His special training for preparing him as a teacher of his trade would comprise some 60 to 240 hours of teacher-training in a little over half of the States. Here again there is wide variation. Six states do not specify any special training. Two others are satisfied with "satisfactory evidence of teacher ability." Nine other states specify training when it is made available in the

community by the State department of education.

- 4 States specify 20 to 50 hours of teacher-training.
- 12 States specify 60 to 120 hours of teacher-training.
- 9 States specify 150 to 240 hours of teacher-training.
- 6 States specify 270 to 360 hours of teacher-training.
- 2 States specify 450 to 480 hours of teacher-training.

### The Training Courses for All-Day Shop Teachers

The following list is arranged in the order of the frequency in which they are mentioned as a requirement in the professional training of vocational teachers:

- Methods of teaching (technique or instruction) (16)
- Trade or job analysis (14)
- Organization of content (11)
- Classroom management (8)
- Philosophy of trade and vocational education (5)
- Observation and practice teaching (5)
- Principles of vocational education (3)
- Vocational guidance (2)
- Writing of instruction sheets, Economics, Sociology, or English (2)
- Organization and administration of vocational education (2)
- Cooperative, part-time, and trade extension education (1)
- History of vocational education (1)
- Health education (1)
- Community surveys (1)
- Records and reports (1)
- Elementary psychology (1)
- Educational psychology (1)
- Civic and employment relations (1)
- Problems of trade technical instruction (1)
- Analysis and organization or related technical curricula (1).

This report by Johnson, which was published in bulletin 172 in 1934, gave valuable information to teachers of trade and industrial education and received

the approval of the United States Office of Education.

In 1930 Siedle (15) made a study of trade and industrial teacher-training to find out what teacher-training colleges were doing and what their attitude was toward the granting of college credit for trade experience, teaching experience, and supervisory and administrative experience in vocational education. The method used was that of sending letters, each of which contained an inquiry blank, to every state director of vocational education and every state supervisor of trade and industrial education in the United States. As a result, cooperation was obtained from the Federal Board for Vocational Education. Siedle in his conclusion says:

Professional vocational industrial education courses are given in 38 colleges and university teacher-training centers and are recognized for college credit, while 18 institutions have made some attempt to evaluate practical experience in terms of college credit. This would seem to indicate that some thought is being given to the movement, for it would appear that when nearly one-half of any group becomes interested in an idea there must be something in that idea to make it worthy of serious consideration.

Institutions allow varying amounts of college credit for trade experience. The number of credits varies from 5 in one university to 32 in another. It was found that there is no consistent practice or uniformity of opinion as to the amount of college credit which should be allowed for trade experience.

Statements obtained from experts in the field of vocational industrial teacher-training indicate a preponderance of opinion in favor of allowing college credit for experience. Twenty-three opinions were obtained, 18 of which are favorable and

5 of which are negative in their attitude of allowing college credit. This condition seems to express a most hopeful outlook for those tradesmen who are now teachers or administrators without college degrees and for those tradesmen who are prospective teachers of vocational industrial education subjects, in that they may look forward to a time when, perhaps, more educators in vocational education will be favorably inclined to evaluate trade training and teaching and administrative experience in terms of college credit.

It is interesting to note the favorable responses in favor of college credit for experience referred to in Siedle's report. It is believed that this study has had much to do with stimulating the movement of several teacher-training colleges to the point of giving college credit for experiences in trade experience, teaching experience, and supervisory experience.

Meader (10), in 1935, made a study of the plan at Colorado State College of Agriculture and Mechanic Arts for vocational teacher-training based on the evaluations of trade experience in terms of college credit. His purpose was to determine whether the granting of college credit for trade experience was desirable and whether the Colorado State College program of evaluating trade experience in terms of college credit toward a Bachelor of Science degree for students majoring in trade and industrial education was justifiable. The methods used were questionnaire and communication sent to school administrators, state boards for vocational education, and colleges. The reactions of the recipients follow:

### Reactions of School Administrators:

The reactions of public school administrators as to the value of trade training for preparing trade teachers for public schools were secured by communicating with 100 schools and superintendents in cities of over 100,000 population. They were asked their opinions on the following questions:

1. In your opinion is the experience gained in a college shop of equal value, hour for hour, with that gained in industry?

Of the 85 superintendents returning the questionnaire answered, 78.8 per cent stated it was their opinion that experience gained in a college shop was not of equal value, hour for hour, with that general experience gained in industry.

2. In your opinion, who makes the most efficient instructor for trade training?

a. The man who receives all of his shop training in college, secures his degree and is then permitted by state regulations to teach trade and industrial classes in the public schools without having had previous experience in industry.

b. The man who has had years of valuable trade experience plus an intensive teacher-training course and the ability to teach the learner.

Of the 58 superintendents replying, 84.7 per cent expressed their opinion in favor of "b".

The replies received show that 96.4 per cent of superintendents answering were in favor of granting college credit for trade experience not to exceed 60 credits to be based on the number of successful years as well as on the recency of his experience in industry to be considered desirable in the preparation of the trade teacher.

Meader has shown in his study that trade experience of persons who are masters of their trade is worthy of being considered for college credit, as indicated by the fact that the opinion of 85 out of 100 school superintendents favored mastery in trade

experience to a college degree where both cannot be secured by one person.

In 1930 Klinefelter (6) made a study of trade and industrial teacher-training which compares favorably with later studies. The purpose was to prepare a bulletin for trade and industrial teacher-trainers and to assist instructors in teacher-training institutions in solving their teaching problems. The method used was an examination of the teacher-training portion of various state plans and conferences in which the teacher-trainers had charge of programs of training trade and industrial teachers in these states. The study revealed that courses most commonly taught are outlined as follows:

1. Job or operation analysis
  - a. job analysis
  - b. operation analysis
  - c. faculty psychology and transfer of learning
  - d. modern psychology and job analysis
  - e. forcing recognition of learning difficulties
  - f. assistance in planning instructional units
  - g. securing a course of study
2. The organization of subject matter in terms of learning difficulties
  - a. trade blocking and progression order
  - b. detailed text material
3. Methods of teaching
  - a. procedure of learning
  - b. methods of instruction
  - c. lesson plans
4. The use of auxiliary teaching material

- a. limitations, disadvantages, and dangers
  - b. legitimate uses
  - c. planning by students to develop resourcefulness
  - d. job sheets as teaching notes
5. Vocational guidance
- a. enrollment of vocational teachers in guidance courses
  - b. suggestions relative to conducting courses
6. Informational courses
- a. background for vocational teachers
  - b. suggestions for conducting courses
  - c. study of industrial history and labor laws
7. Shop organization
- a. need for assistance
  - b. rearrangement in placement of machines
  - c. modified gang production
  - d. planning and writing
8. Mental testing
- a. mental misfits and motor-minded mechanics
  - b. admission of pupils on basis of I. Q.
  - c. probationary period essential
  - d. demonstration of tests
  - e. achievement test
9. Subject matter course
- a. alleged short comings of mechanics
  - b. units of shop work
  - c. periodic trade employment as professional improvement
10. Research work
- a. training in methods
  - b. writing textbooks
11. Foremanship work
- a. foremanship through evening classes
  - b. relationship of teacher-training and foremanship
  - c. bona fide need for local foremanship classes
  - d. value of foremanship in promotion and

- coordination
- e. source for training material

Klinefelter's study furnished satisfactory information and suggestions for the organizations and operations of efficient teacher-training programs and was published in bulletin form by the United States Federal Board for Vocational Education as an aid to teacher-trainers.

In 1942, Louisiana Educational Survey Commission (9) headed a study for vocational education in order to provide a background for an understanding of vocational needs in Louisiana. The methods used for obtaining information were committee and individual studies, reports, conferences, and questionnaires covering all education, including vocational education for Negroes.

Trade and Industrial Education

With the growth of the industrial economy, there has been a constant demand for skilled labor. The program of trade and industrial education was planned and established to help meet those increasing demands for skilled labor and to enable the people of the state to benefit from the employment opportunities inherent in industrial expansion.

Negro Shops. While there are no unit trade schools for Negroes in the State, provision has been made for a very extensive program of general industrial shops. There are 21 of these shops and all of them are operated on a parish (county) wide basis.

Two general factors were considered in selecting the locations of the general industrial shops for Negro training, centers of population and opportunities for employment.

The shop subject most frequently taught on the general industrial program is general carpentry. One class in shoe repairing was organized during the past year and is proving very successful.

Training for Negro girls has been given additional attention, in particular, this past year and with very promising results. Classes in sewing, cooking, and cosmetology have been organized in Shreveport, the second largest city of the state. Many of the trainees on this program have been successful in getting employment. It is of interest to know that the number of requests for girls taking this training has been increasing.

In the Negro classes there was a total representation of 731 boys and 228 girls during the past fiscal year.

The research on question A, "What is being taught in trade and industrial divisions of state departments for vocational education or in schools designated for that purpose?" gives a source of information on the question that furnishes a background for this study.

The research findings given below relate to question B, "What type and size of shops are used for training teachers?" and question C, "What equipment is available in teacher-training shops?."

Struck (17), in 1939, through his research in schoolhouse architecture, federal bulletins, and experience in teaching and shop planning, set up standards for shop areas. The purpose is to aid persons who are planning and supervising shops. The method is based upon previous studies of trade and industrial schools, as follows:

The General Problem-Among the important factors that help or hinder, as the case may be, the development of industrial education are the housing facilities; the shop and laboratory lay-outs and the equipment that is installed therein. Specific mention of these factors is made in the National Vocational Education Act and in state plans for vocational education.... The general problem of determining the number of pupils and adults to be accommodated, of selecting the architect, of determining the schedule of rooms and shops, of selecting the site, of preparing plans, of securing approval of plans, of securing bids and letting contracts - all of these matters are primarily matters for school administrators. There are definite contributions, however, that the shop teacher, the supervisor and the director of industrial education can make better than anyone else.

State Requirements - Special reimbursements from either state or federal funds are made to school districts or to schools, depending upon the state plan for vocational education, in several different ways, but whether it be in the form of reimbursement upon teacher's salaries on the basis of a percentage of operating cost or on any other basis the state is interested in assuring itself that the shop work is taught with adequate equipment. For this reason, and for other reasons, it is well to make sure that the equipment to be ordered meets the requirements of the state office that is charged by law with enforcing the provisions of the state plan for vocational education. It is appreciated that time is an important element; that there is a desire to "cut corners", that we wish to reduce "red tape" to a minimum, but experiences will show, we believe, that equipping shops is more than a one-man job, and that it pays to give it the attention that its importance and difficulties demand.

Suggestive Floor Areas. An examination of actual floor areas devoted to the various types of school shops shows a wide range in area in all of the various types. On the one hand, there are the cases where shops are crowded into space as small as a standard classroom unit and a half; on the other hand, there are the large shops found in privately endowed trade schools, mechanics institutes and in publicly supported vocational and technical schools in large cities. Merely to state the floor area does not necessarily give a complete picture of the actual situation. For example, some

of the larger shops are planned for two teachers; others use one instructor with day classes and two with evening classes; some shops have adjoining them other related units such as storage and blue-print rooms or a machine shop to supplement an auto shop; still others are complete self-contained units.

The floor areas herewith given are for one teacher shops.

Table A.--Showing suggestive floor areas for shops.

Type of Shop	<u>Suggested area in square feet</u>	
	Minimum	Adequate
<u>Automobile</u>	2.000	4.500
<u>Cabinet</u>	1.200	3.500
<u>Carpentry</u>	1.200	3.500
<u>Drafting</u>	1.200	2.000
<u>Electrical</u>	1.200	3.500
<u>Industrial Arts, General</u>	1.000	1.500
<u>Industrial Arts, Unit</u>	1.000	1.500
<u>Interior Decorating</u>	1.200	3.500
<u>Machine</u>	1.200	3.500
<u>Pattern</u>	1.200	3.500
<u>Print</u>	1.200	2.500
<u>Sheet Metal</u>	1.000	2.000
<u>Trowel Trades</u>	1.500	3.500
<u>Welding</u>	1.200	2.500

The above table is a continuation of above reference (Struck) taken from Page 323.

The following research findings relate to question D, "What are the State requirements for trade and industrial teachers?"

Russell (14), in 1938, made a committee report to the President of the United States, the purpose of which was to find out the performance in and the requirement for vocational education teachers in the United States. The method used was a study of the report made by a committee which was appointed by the President of the United States:

From the beginning there has been an insistence on suitably qualified teachers in the federally reimbursed program of vocational education, and usually the requirements are stated rather broadly in terms of training, experience and personal qualifications. The States are permitted to suggest the minimum qualifications that will be accepted, but Federal influence has been exerted in the direction of increasing the level of teacher preparations.

Russell lists the number of states and territories having various academic requirements for full-time teachers of trades and industries. Data taken from State plans for the period 1932-1937 are as follows:

Two years college work	1 state
High School graduates or equivalent	9 states
Two years approved high school or equivalent	5 states
Elementary school graduate or equivalent	18 states
Seventh grade or equivalent	2 states
Satisfactory	4 states
No provisions	12 states

Russell further states:

Many young people undoubtedly balk at the curriculum required in preparation for teaching

vocational subjects. Most of the curriculums require a heavy concentration of courses in the special subjects with additional required courses in related fields, leaving relatively little opportunity for electives. Even though the curriculum may in itself be reasonably broad, the emphasis on specialized courses and large percentage of required courses are distasteful to many students who prefer a broader type of training. Prospective teachers with such inclinations are likely not to choose the vocational subjects, to enter instead into some of the regular academic fields.

The United States Advisory Committee also found that in some cases teaching service in the vocational field offered only narrow opportunities for a career and advancement. Again Russell says:

The best interest of society demand that every individual be equipped for some occupation so that he may contribute effectively to the satisfaction of human wants. The public school has proved to be an effective agency for occupational preparation. Much of the preparation, however, must in any case be given on the job rather than in the school. Apprenticeship should be encouraged as a method of vocational education....

The satisfactory operation of a program of training for occupations is conditioned on the availability of a properly qualified teaching and administrative staff....

This whole question of the proper program for preparing teachers for vocational subjects is very complex. In general, the people who are most competent to deal with the problems are those on the staffs of institutions of higher education. It seems appropriate to leave the major responsibility for the development of programs for the training of teachers of vocational subjects to the authorities in institutions of higher education which have undertaken such services.

The preparation of teachers for trade and industrial education should include also some training in elementary economics, labor problems, on similar materials from the field of Social Sciences. As long as the content in vocational education emphasizes the teaching of skills instead

of a background understanding of trade problems, it will be difficult to set up broader requirements for teachers.

The Preparation of Teachers

When the Smith-Hughes Act was passed in 1917 there was an obvious need for provision for the preparation of teachers for the new instructional services that were to be established. Although the so-called Nelson Amendment passed in 1907 had given the land-grant colleges permission to use some of the funds appropriated thereby for the preparation of teachers of Agriculture and Mechanic Arts, up to 1917 only 19 of the 48 land-grant colleges had undertaken such programs. No Federal funds had been authorized for the preparation of teachers in other fields of vocational training, and a sufficient supply of qualified teachers of these subjects did not exist. The framers of the Smith-Hughes Act wisely determined to include an appropriation that would permit institutions of higher education to expand their facilities to afford suitable preparation for teachers of the vocational subjects.

Minimum requirements for trade and industrial teachers are set up by the United States Office of Education, and in most cases are enlarged upon by the state departments of vocational education and strengthened by the teacher-training colleges. The question involved has not been completely answered by Russell.

Spofford (2), in 1933, made a report to the American Vocational Association meeting held in Detroit, Michigan, the purpose of which was to show the systems employed in selecting persons to be trained as vocational teachers. The method used for the study was the sending of questionnaires to the representatives of

38 states. The educational qualifications of teachers, as given in this report, follow:

An analysis of the questionnaires shows that 30 States require eighth-grade graduation or the equivalent, 6 States do not require eighth-grade graduation, 12 States require a high school graduation or the equivalent, 19 States do not require a high school graduation, 1 State requires 1 year of high school, and one State requires 2 years of high school.

It would appear from these reports of the States that educational background, industrial experience, and personality are vital factors which must be determined as far as possible in selecting personnel for teacher-training classes. Fundamentally, the trade teacher must be adequately equipped with an educational and industrial background together with the trade skills necessary to give assurance of his having something to teach after he is trained as a teacher. Furthermore, it must be ascertained that the trade-technical teacher has an appreciation of the application of his subjects to the manipulative processes and skills of the industry, so that he may tie up the trade-technical subjects with trade experiences. Finally every effort must be made to determine the personality characteristics of the prospective teacher by securing as much information as possible concerning his habits, his social life, his temperament, and his probable ability to adjust himself to a teaching position.

The research findings that pertain to question D answer in part the question, "What are the state requirements for trade and industrial teachers?" The studies referred to give information on the general situation throughout the country including the states of this study.

Research findings that relate to question F, "What combination of duties and responsibilities do your teachers report?" follow:

In 1939, Stahl (16) made a study of trade and industrial teachers in North Carolina. His purpose was to find out the professional preparation and status of the teachers of North Carolina. The method used to gather information for this study was a question list sent to 141 white and Negro teachers of industrial subjects. The reactions of the recipients are given below.

#### Extra-Curricula Activities

Eighty-seven teachers replied to the question concerning their extra-curricular activities. One of these reported that he was expected to engage in fifteen different extra-curricular activities, another listed twelve activities, and two more signified they participated in eleven different kinds of extra-curricular work during the year. For no apparent reason twenty-one instructors checked six activities, while only six checked seven, and four engaged in five activities. Seventy percent of the group listed between two and six activities. Seven teachers reported that they regularly engaged in only one activity. The average for the group was 4.97. It might be interesting to note the particular activities listed by the teacher who engaged in fifteen during the year. The list is as follows:

1. Coaching,
2. Boys' Advisor,
3. Ticket seller or taker,
4. Sunday school work,
5. Chaperone,
6. Stage work,
7. Hobby club,
8. Independent sports,
9. Home room,
10. Home workshop guild,
11. Official scorer or timer,
12. Supervisor of N. Y. A.
13. Faculty play,
14. Boy Scout work, and
15. Boys' bicycle club.

Although some of these activities do not occupy the teacher's time daily, the group should

constitute a good-sized job in itself. This particular teacher also meets 115 students from 5 different grades daily. It would appear that this would be a man-sized job for an experienced teacher, but this particular instructor has four years experience as a druggist and is in his first year of teaching....

The particular activities engaged in by the eighty-seven teachers of industrial education are shown in Table XXVI. Fifty-two teachers reported that they conducted a home room, forty acted as ticket seller or taker, thirty were coaches of some form of athletics, twenty-nine were expected to aid in stage settings, twenty-seven were active in Sunday School work, twenty-three conducted evening classes, and twenty-three sponsored hobby clubs. Eighteen teachers engaged in vocational guidance, fifteen were expected to supervise halls or playgrounds, fifteen acted as chaperones at school functions, fourteen did school-safety work, fourteen acted as boys' advisor. Thirteen were expected to be either scorer or timer for school athletics, twelve sponsored a class, and eleven took part in a faculty play. Of the remaining nineteen activities mentioned none were listed by more than ten teachers. One rather unique job not included on the printed question list but written in by three teachers was that of superintendent of buildings. It is supposed that this work had to do with supervision of repairs and maintenance of school buildings.

Table B.--Extra-curricular activities of eighty-seven teachers of industrial education in North Carolina, 1939.

Activity	Number of teachers	Per cent of teachers
1	2	3
1. Home room	52	69.8
2. Ticket seller or taker	40	45.9
3. Coaching	30	34.6
4. Stage work	29	33.3
5. Sunday School work	27	31.0
6. Evening Classes	23	26.0
7. Hobby Clubs	23	26.0
8. Vocational guidance	18	21.8
9. Supervision	15	17.2
10. Chaperone	15	17.2
11. Boys' Adviser	14	16.1
12. School Safety work	14	16.1
13. Official scorer or timer	13	15.0
14. Class Sponsor	12	13.8
15. Faculty Play	11	12.6
16. Hi-Y Sponsor	10	11.5
17. Supervisor of N. Y. A.	10	11.5
18. Independent Sports	9	10.3
19. Activities Committee	8	9.2
20. Homework shop guild	7	8.0

Table B.--Extra-curricular activities of eighty-seven teachers of industrial education in North Carolina, 1939.--Continued

Activity	Number of teachers	Per cent of teachers
1	2	3
21. Boy Scouts	7	8.0
22. School news	4	4.6
23. Girls' Mechanics Club	4	4.6
24. Movie Machine operator	4	4.6
25. Public Address system	4	4.6
26. School Annual	3	3.4
27. Superintendent of buildings	3	3.4
28. Band or Orchestra	2	2.4
29. Dramatics or debate	2	2.4
30. Honor society for students	2	2.4
31. 4-H Clubs	1	1.1
32. Credit Union	1	1.1
33. School Photography	1	1.1
34. Glee Club	1	1.1

Professional Preparation

The "average" shop teacher in North Carolina is well prepared professionally in the field of industrial education since he has 24 quarter hours of woodworking credit, 14.6 hours in drafting, 13.3 hours in metal working, 20.43 hours in other industrial education courses and a total of 72.36 quarter hours of credit in all industrial-education work.

The industrial-education instructor in North Carolina probably ranks above the average in amount of trade experience, but below the average in years of teaching experience. Three-fourths of the shop men in North Carolina have some trade work and one-half of those with a trade background have had some experience in carpentry. Of the 75 per cent with trade work to their credit 90 per cent are offering work closely related to the trade or trades in which they have experience.

Difficult Problem

The most serious teaching problem faced by instructors of industrial education in North Carolina is lack of equipment, with the problem of inadequate housing and insufficient materials and supplies being next most urgent. Sixty-seven teachers listed some sort of financial problems with only thirty-six mentioning administrative difficulties.

The following table shows these problems in the order of difficulties as given by the North Carolina trade and industrial education teachers.

Table C.--Most difficult teaching problems of seventy-five instructors of industrial education in North Carolina, 1939.

Teaching Problems	Number of times mentioned	Per cent of teachers
1	2	3
1. Lack of Equipment	24	32.0
2. Inadequate housing	10	13.3
3. Lack of supplies and materials	10	13.3
4. Poor selection of students	9	12.0
5. Students' finance	7	9.3
6. Classes or teachers overloaded	7	9.3
7. Lack of teaching material	5	6.7
8. Insufficient time	5	6.7
9. Schedule difficulties	3	4.0
10. Lack of pride on part of boys	3	4.0
11. Lack of interest in Mechanical Drawing	2	2.6
12. Lack of initiative by students	2	2.6
13. Lack of cooperation from administration	2	2.6
14. Poor attendance	2	2.6
15. Personal finances	2	2.6
16. School finance	2	2.6
17. Lack of cooperation from fellow teachers	2	2.6
18. Students stealing tools	1	1.3
19. Disorderly finishing room	1	1.3

Table C.--Most difficult teaching problems of seventy-five instructors of industrial education in North Carolina, 1939.--Continued

Teaching Problems	Number of times mentioned	Per cent of teachers
1	2	3
20. Lack of organization in shop	1	1.3
21. Lack of course of study	1	1.3
22. Lack of training by teachers	1	1.3
23. Low mentality of students	1	1.3
24. Discipline	1	1.3
25. Inability of students to retain facts read	1	1.3
26. Lack of community cooperation	1	1.3

Although teachers were asked for the one problem causing them the most difficulty, many listed two or more; therefore, the total of column 2 is more than 75, and the total of column 3 is more than 100. Twenty-two teachers failed to state a problem, but only one of these signified that he had no serious problem.

Stahl in his study of the North Carolina trade and industrial teachers included both white and Negro teachers which indicates that the situation is the same for both groups except that white teachers received more of their professional training out of the state than did the Negro teachers.

The research findings on this question answer the problem only for North Carolina, which is one of the states involved in this study.

Research findings that relate to question H, "What are the state requirements for teacher-training?" follow:

The United States Office of Education (20) in Statement of Policies for Vocational Education, sets minimum requirements for trade and industrial teacher-training. The purpose of this publication is to make clear to those in charge of teacher-training the salaries which are to be reimbursed by federal funds. The United States Commissioner of Education appointed a committee of nine persons, with six other members representing labor, to study the problems of vocational

education and make necessary changes in administrative policies. State and regional conferences were held to discuss problems of vocational education and cooperation with the states in the development of a vocational education program. The statement made by this committee follows:

Approved Types of Teacher-Training

Teacher-training funds may be used for the preparatory training of teachers and for the improvement of teachers in service as indicated below when proposed by the State board or approved in the State plan.

Preparatory Training for Vocational Teachers

The use of Federal funds may be approved for reimbursement of the salaries of teacher trainers. When teaching special methods courses and directing student teaching, and when teaching fundamental courses in education and the philosophy of Vocational education.

Improvement of Teachers in Service

The use of Federal funds for the reimbursement of the salaries of teacher-trainers engaged in the improvement of teachers in service may include-

1. For itinerant teacher trainers.
2. For teacher trainers conducting off-campus courses primarily concerned with methods of teaching.
3. For resident teacher-trainers teaching courses during the regular and summer sessions in special methods, and philosophy of vocational education.
4. For teachers of certain approved technical subjects as offered in short intensive courses intended to improve the ability of employed teachers, and supervisors, and dealing with subject matter related to the vocation which they are teaching or supervising, to the end that they keep

abreast of current developments in the particular fields in which they are employed as teachers or supervisors.

### Provisions for Teacher-Training

In view of the great importance of trained teachers, supervisors, and directors in promoting effective vocational education, the Office of Education in cooperation with the States, has continuously studied the problems which have arisen within the States in connection with training of teachers and supervisors in the fields of agricultural, trade and industrial, and home economics educations. The results of these studies have made it seem advisable to the Office, in discharging the responsibilities placed upon it by the vocational education acts, continuously to consider more effective ways in means of improving and providing for leadership in the teacher-training program.

An adequate supply of efficient teachers and supervisors of vocational subjects can be developed only by thoroughly competent teacher-trainers, whose practical experience, training and general education specially qualify them for this highly important work. It is, therefore, necessary that the State board set up in its State plan specific qualifications for teacher-trainers. These qualifications should define acceptable standards pertaining to-

- a. Practical working experience
- b. Technical education
- c. General education
- d. Professional education
- e. Teaching experience in approved vocational schools
- f. Supervisory or administrative experience

### Standards of Equipment and Maintenance

While the right to establish standards rests with State boards, the standards themselves must have approval of the Office of Education. The Office of Education will hold State boards responsible for determining that the plant and equipment of any school or class are according to standards set for which the school is established, and that the amount expended for maintenance is

sufficient to insure practical realization of standards of work prescribed in State plans.... Sections 10, 11, and 12 of the Smith-Hughes Act and section 6 of the George-Dean Act further provide that all federally aided vocational education programs must be under public supervision and control.

Minimum for Maintenance

That the total amount expended for maintenance of such appropriation shall not be less annually than the amount fixed by the State board for such schools or classes in the State.

State departments of vocational education and state teacher-training colleges regulate their teacher-training programs in accordance with federal policies and with the approval of the United States Office of Education.

In 1941, Swanson (18) gave a report of the committee study on "The State and Preservice Preparation of Vocational Education" for the United States. The purpose was to give the detailed provisions for the training of teachers of vocational education with an evaluation of the teacher-training programs in the various fields. The methods used to gather the information for this study were: conferences held periodically with committees of five members on state department studies, a study of publications of the vocational divisions of the United States Office of Education, reports from State boards of vocational education and teacher-training boards of vocational education and teacher-training institutions, state plans of vocational

education, and visits to state offices and to teacher-training institutions. The findings on trade and industrial teacher-training follow:

Teacher-Trainers

Similar to the situation with State supervisors, all State plans set up qualifications for teacher-trainers engaged directly in the preparation of vocational teachers in federally aided programs.

Trade and industrial education - In trade and industrial education, all but 2 state plans stipulate that teacher-trainers have experience as wage earners in trade or industrial occupation, with 42 plans specifying 3 years for all plans, a range from 1-8 years. Forty-one State plans require trade and industrial class teaching experience with 36 plans specifying 3 years of such experience and the range from 2 to 5 years for all plans. Forty-one plans specify supervisory experience ranging from 2 to 5 years. Forty-five plans require a specified number of clock-hours of trade and industrial courses with a range of from 180 to 640 hours. Twenty-six plans specify 4 years college training or its equivalent while others range downward to a plan which stipulates approved high school courses. Fifteen State plans specify varying degrees of technical training with the highest requirements being that of graduation from a technical college or equivalent.

The State board sets up qualifications in its State plan for all professional workers in education whose salaries involve the use of Federal funds. Upon approval of the State plan, the qualifications therein stated for each position becomes the minimum standard for the selection of personnel, whether the State board, the teacher-training institution, or the local board of education is the employing agency. Members of State boards and teacher-training staffs engaged directly in vocational education represent a highly competent group of workers from the standpoint of qualifications. Qualifications usually are stated in terms of occupational or vocational experience; professional, technical and general education, administrative and supervisory experience, and teaching experience. Periodic revisions made in

State plans reveal a distinct trend toward raising specific standards with regard to qualifications of personnel.

Coordination of Teacher-Training Curricula and Courses Among Institutions Within a State

Effective provisions are found in each State for coordination in matters relating to curricula and courses among teacher-training institutions. There are several factors that account for this situation. The State board is responsible for the preparation of plans for the training of teachers. Most State plans contain statements with respect to curricular programs, courses, and training experiences to be provided in institutions which are designated for approval. This might be considered a form of prescription were it not for other considerations.

It is only in exceptional instances that the State board designates for approval more than one teacher-training institution in the fields of trade and industrial education, distributive education, and agricultural education. These exceptional cases usually occur in the States providing separate schools for White and Negro trainers.

State plans frequently indicate the curriculum or types of courses to be provided in an institution designated for approval. Teacher-trainers usually are consulted in the preparation of this portion of the State plan. Furthermore, all teacher-training is provided under the supervision of the State board. These elements serve to bring about a certain degree of coordination. More important, however, than either of these is the character of cooperation which exists between the State boards and teacher-training institutions leading to their professional staffs' for vocational education functioning as a unit....

One other significant type of coordination among teacher-training institutions is found in the movement to correlate training programs in the different fields of vocational education. Marked attention is being given to this phase by a number of States....

Those in charge of trade and industrial training programs are sometimes called on to assist vocational agriculture departments in high

schools by giving instruction in manipulative work to prospective workers in greenhouses; in landscaping projects such as are carried on by park services, including planning and planting work, in surveying, and design. Manipulative work necessary in these occupations is taught in trade and industrial classes; while planting, fertilizing, and similar operations are taught in vocational agricultural departments.

Establishment and Administration of Certification Requirements Directly Affecting Institutional Curricula and Courses

Each State board for vocational education sets up in its State plan the minimum qualification for teachers of vocational subjects. These minimum qualifications, which include the character and amount of general education and professional and technical training required of teachers of vocational subjects, directly affect institutional curricula and course. Frequently, a specific distribution of courses, certain specific courses or a designated number of clock-hours of training are mentioned in State plans.

Teacher-training institutions for trade and industrial education and for distributive education adjust their programs to meet teacher qualification, however, the necessary adjustments usually relate to specific types of training or to specific courses rather than 4-years or senior college curricular programs.

Improvement of Classroom Instruction in Teacher-Training Institutions

State boards and their representatives are concerned with problems relating to the improvement of classroom instruction in teacher-training institutions. Several aspects of the problem are involved, namely:

Securing proper distribution and balance in both professional and technical training.

Securing specific types of needed technical instruction for both the preservice and in service teacher-training programs.

Providing specific skills training vs. over-emphasis on lectures and other nonparticipating forms of instructions.

Utilizing more effective methods of classroom teaching.

The improvement of classroom instruction frequently takes the form of an indirect approach. Among devices used to improve classroom instruction are the following: In many institutions, teacher-trainers serve on or head important faculty committees dealing with curriculum reorganization and the improvement of teaching; teacher-trainers work with various faculty groups of the technical divisions on the improvement of course content and methods of teaching; Methods classes and seminar programs dealing with methods of college teaching are conducted; State supervisors confer with teachers of professional and technical courses on methods of instruction and course content; itinerant teacher trainers are stationed at teacher-training institutions, thereby affording resident staff members opportunity to secure current information with respect to the problems and needs of employed teachers; technical instructors are invited to work with state and district conference groups and committees, thereby discovering teacher problems; and resident teacher-trainers and technical instructors visit the field to work with and discover first-hand the needs of employed teachers.

### Teacher Placement

State boards for vocational education in most instances take an active interest in the placement of teachers. It is customary for teacher-trainers or the teacher training institution to submit credentials of newly qualified vocational teachers to the respective State supervisors. It is also the practice of State supervisors to visit the teacher-training institution for the purpose of interviewing and becoming acquainted with all newly qualified teachers. There generally is close cooperation on the part of the teacher-trainer and the supervisor in making recommendations with respect to placement, the one being familiar with the training and experience of the trainee and the other being familiar with the school situations of the State....

The placement of teachers for vocational

subjects presents problems not commonly found in other fields. The demand for vocational teachers in practically all fields about equals or exceeds the supply. In trade and industrial, public service, and distributive education, the principal demand is for teachers of adult groups. Consequently, as new teachers are needed, the supply has been recruited from trades, industries, business or public service. These teachers frequently serve on a part-time basis while pursuing their vocations. In the field of home making education, the pressure frequently has been on the side of needing more teachers than have been available. This has come about due to the high rate of turnover among employed teachers because of more attractive salaries in other fields which require the type of technical training these teachers have, and because of change in marital status.

#### Supervision of Institutional Follow-Up and In-service Teacher-Training

The supervision of all aspects of teacher-training rests with the respective State boards. It is a common practice in vocational education to provide itinerant teacher-trainers on staffs of teacher-training institutions. One other practice is widely followed, namely, that of making provisions for the resident teacher-trainer to devote part of his time to follow-up of beginning teachers. He also devotes part of his time to others in service activities such as conducting off-campus courses, working with district conferences, and giving individual service to older teachers in need of assistance. These activities of an in-service nature are carried out under the direction of the State board. It is customary for itinerant or resident teacher-trainers engaged in these activities to prepare memoranda relating to each visit and to send copies to the State supervisor. In this way over-lapping is avoided, and coordination of effort attained in building effective State programs.

Swanson shows in this study that the teacher-training programs of the various states have been greatly improved and that progress has been made in the preparation of teachers.

The research on this question answers the problems in general for all states. No distinction is made for any state or race group.

Research findings relating to question I, "What should comprise a teacher-training program for Negro Trade and Industrial teachers?" follow:

Norton (12), in 1939, under the direction of a special committee, made a study of the character and cost of public education in New York State. The purpose of the study was to find out

What the educational system of the State is accomplishing, how well its total fits present-day needs, and what the costs of that program are and should be, and to assist the Regents in considering the needs and problems of the school system and the reformulating the fundamental educational policies of the State.

The method used was a cooperative study of the Inquiry Staff, principals, supervisors, and state and local educational officials.

#### Vocational Industrial Teacher-Training

The vocational industrial teacher-training program in the State is conducted on a different basis than those previously mentioned. The federal law under which vocational education is established provides that the training of teachers shall be a function of the State Board for Vocational Education. The function may be delegated to teacher-training institutions or the State Board may assume the responsibility directly. In New York State the second group carries the responsibility. The organization and administration of this program, except for summer school work, is under the immediate control of the Vocational Extension Education Division, through a supervisor of industrial teacher-training.

Review of the present methods of preparing vocational teachers in New York State indicates that a well-organized program is in operation, although the number of students undertaking the training is meager. With the up swing in business and the expansion of vocational industrial education throughout the State, there has been such a demand for competent teachers within the past few years that the present facilities for training have been taxed to their utmost.

The chief training center for vocational industrial teachers is located in New York City. During 1936-37 approximately 350 students in forty classes have been in training on a budget of \$7000. Sixty-one persons were graduated in 1936. It is estimated that the number of persons in training in the city should be increased to six hundred and that at least one hundred of them, while in training, should be used as apprentice teachers in the day schools.

#### An Adequate Teacher-Training Program

No school system can operate successfully unless it has an adequately trained personnel. In order that this may be realized, the State Education Department must encourage in every possible way the development of an adequate teacher-training program for teachers dealing with the problem of vocational adjustment.

1. Professional training in the field of vocational adjustment should be given in approved institutions, either public or private. It would seem that the important consideration is not whether the training is given in a public or private institution, but rather whether the work is being done effectively. For this reason, the program should be restricted to, say, public institutions.

The state should establish minimum standards for approval of a training program, to be complied with by all institutions desirous of giving such training. Simply that an institution is a public one, is not justification for the continuance of a teacher-training program unless it maintains approval standards.

One provision should be the requirement of apprenticeship teacher-training as definite part

of the program. Another stipulation should be that these approved institutions, if they accept the responsibility of training teachers, should assume the obligation of maintaining a regular field contact with all graduates for one year after graduation in order to be certain that the teacher is becoming adjusted to his teaching. The State Education Department should require an annual report from each training institution, including among other things information on placement and follow-up work.

2. Once the State has established adequate minimum standards for approval of training programs, it should assist these institutions in every way possible by preparing useful material dealing with such matters as the problems being met by teachers, by distributing the results of special research, and by maintaining close contacts with the institutions.

In the early days of the industrial education program, it was necessary for vocational industrial educators to assume the task of training teachers, but the program today is not in its infancy, nor is it an uncharted field. To put it on the same basis as other forms of teacher-training by placing it under the control of the Teacher Education and Certification Division of the State Education Department might prove advisable. Its importance would warrant equal status with other types of teacher-training.

The findings in this study offer suggestions for a well planned program that will be satisfactory for any group, race, or state.

Blauch (3), in 1933, completed a study on federal cooperation in the various branches of vocational education. The purpose was to give a fundamental understanding of the movement which resulted in federal cooperation in vocational education. The method used in the study was the gathering of material from previous studies and from experienced persons together with

manuscripts and records of the American Vocational Association and the American Society for the Promotion of Industrial Education.

### The Improvement of Teachers in Service

The need for in-service training of vocational teachers, as well as the liberal rulings of the Federal Board, resulted in a rather rapid development of service for the improvement of teachers and teaching. This has developed in several ways. Some of it has been effective through specific courses in summer schools. Extension courses provided by educational institutions or by State boards have proved effective for in-service training, as have been also late afternoon, evening, and Saturday classes at the institution....In trade and industrial education, much of the teacher improvement work is carried on by the local supervisors, who train teachers in their own communities.

Included in the program of trade and industrial teachers is the work of training instructors of foremen. Since foremen training is conducted largely by the conference method, the instructors or conference leaders, are trained in conference procedure....

The amount of general training desirable for teachers of trade and industrial subjects has recently been a subject of discussion. In many States and in many communities the possession of a college degree is considered a more important asset for a trade teacher than is the possession of an adequate mastery of his trade. This situation has produced two results. In the first place, there has been a tendency to place in teaching positions, whenever possible, individuals who had acquired a good general education but who possessed only the minimum requirements as to occupational experience. In the second place, the emphasis on academic education has in many cases forced competent mechanics to submit to a teacher-training program largely of an academic character which too often has been of doubtful value in assisting them to do better work as trade and industrial teachers. In a number of localities, a capable mechanic is barred from salary increase or promotion because he does not possess an advanced college or

university degree. The Federal office has always adhered to the fundamental principle that a vocational instructor must be a thorough master of the occupation he teaches, and it has viewed with considerable anxiety the tendency to regard a college degree rather than occupational mastery, as fundamental for teachers of trade and industrial subjects.

Recently a general tendency seems to have developed to stress general education in the improvement of vocational teachers even though certification standards may not require it. This takes the form of work toward a college degree for teachers without degrees, and graduate study for those who already have degrees. The trend seems to be due to several reasons, such as (1) the tradition that teachers should be educated people and (2) the belief that all successful teaching depends in large measure on the general education of teachers. These and other factors are responsible for vocational teachers continuing their education.

The research findings on this question answer the problem to the extent that they recommend a continual upgrading for teachers of trade and industrial education, with improvements in trade experience, industrial education subjects, and academic education.

No research evidence has been found on question E, "What positions do the graduates obtain?" and question G, "How have teacher-training curricula been modified in the light of their reports?" Complete answers to all of the subordinate questions will be sought by applying the method described in Chapter III.

### Chapter III

#### MATERIALS AND METHODS

In studying the problem of trade and industrial teacher-training for Negroes, information was needed on the course offerings of the teacher-training colleges, including the credits required for graduation by each college, the type and size of shops and the nature of the equipment, and the trades taught in these shops. It was necessary to know the qualifications and the duties of teachers, and information was needed concerning the graduates of the teacher-training colleges and the duties and responsibilities of teachers in service. It was also necessary to find information concerning the college curricula, the changes that had been made to improve the teacher-training program, and the state requirements for teacher-training.

#### Source of Data

The source used for obtaining data on subordinate question A, "What is being taught in trade and industrial divisions of state departments of vocational education?" was the catalogues of Negro teacher-training colleges, which are the official bulletins of instruction approved by the state boards of education.

Data were also obtained on the following

questions:

- B. What types and size of shops are used in training teachers?
- D. What are the state requirements for trade and industrial teachers?
- E. What positions do the graduates obtain?
- F. What combinations of duties and responsibilities do teachers report?
- G. How have teacher-training curricula been modified in light of teachers' reports?
- H. What are the state requirements for teacher-training?

The sources of these data were teacher-trainers of trade and industrial education. The teacher-trainers who are in charge of trade and industrial teacher-training are approved and appointed by the state boards of education.

For obtaining data on the following questions the sources used were trade and industrial teachers in nine teacher-training colleges.

- B. What type and size of shops are used for training teachers?
- C. What equipment is available for teacher-training shops?
- D. What are the state requirements for trade and industrial teachers?

The data from the teacher-trainers were made official

and reliable by the deans of instruction of the Negro teacher-training colleges who pledged their cooperation and distributed the questionnaires to the trade and industrial teachers.

Subsequent sources of data on the following questions were state plans for vocational education and state certification for teachers' bulletins.

D. What are the state requirements for trade and industrial teachers? and question

H. What are the state requirements for trade and industrial teacher-training?

The state plans are the official policies of the states approved by the United States Office of Education. The State Certification for Teachers' Bulletin sets up the official requirements for all teachers of the state, and the teachers are approved by the state board of education.

#### Methods

The analysis method was used in obtaining data from the catalogues of the Negro teacher-training colleges. The catalogues were secured by mail from the registrars of these colleges, and data were compiled to determine what is being taught in trade and industrial teacher-training.

The questionnaire method was used in obtaining data from state teacher-trainers of trade and industrial

education. The questionnaire method was also used in obtaining data from trade and industrial teachers of the Negro teacher-training colleges. Copies of these questionnaires appear in the appendix. The reliability of these questionnaires for gathering data is based upon the following procedure.

These questionnaires were planned and a tentative form was made under the supervision of Dr. Roy A. Hinderman, Research Supervisor of Colorado State College of Agriculture and Mechanic Arts, who gave valuable information on methods of collecting data. Mr. John B. Cade, Dean of Instruction, Southern University, Agricultural and Mechanical College, Scotlandville, Louisiana, examined these questionnaires and gave suggestions for improving the forms. The state teacher-trainer of Mississippi, Mr. F. O. Woodard, expressed his faith in their validity and welcomed a tryout in his program of teacher-training which resulted in new questions being incorporated into the questionnaires. Other teacher-trainers and directors of trade and industrial education wrote for copies for their files. Mr. Wallace W. Stewart, head of the department of teacher-training, and director of teacher placement of Southern University, gave suggestions for improving the forms.

The first set of these questionnaires sent out was followed up by visits by the writer to the Negro teacher-training colleges of Mississippi and South

Carolina. The forms were found to be reliable and easily checked. Comparisons were made with other questionnaires, especially the Louisiana Survey of Education forms of 1941-42, which gave valuable information in the formation of this set of questions. With this evidence, the questionnaires were put into final form.

The method of personal visitation and interview was used to obtain data from state teacher-trainers of Florida, Mississippi, North Carolina, and South Carolina. The questionnaire forms were used as a guide for all interviews.

As a result of applying the methods described above to the sources mentioned in the beginning of the chapter, data were obtained on all the subordinate questions. The findings are presented in Chapter IV.

## Chapter IV

### FINDINGS

The program of trade and industrial teacher-training for Negroes in the southern region was investigated according to the procedures described in Chapter III.

The information that was secured is presented in this chapter in relation to the subordinate questions of the problem.

The findings that are pertinent to question A, "What is being taught in trade and industrial divisions of the state departments of vocational education or in schools designated for that purpose?" are revealed in Tables 1 and 2.

Table 1 shows the amount of credit in semester hours required for trade and related subjects. Five of the state teacher-training colleges require 13 semester hours of credit in English, one requires nine semester hours, the average being 11.25. Mechanical drawing is required by all of these colleges with a credit range from six to 16 semester hours, the average being 9.75. Prairie View Normal and Industrial College requires six semester hours, and Arkansas Agricultural and Mechanical College requires 16 hours.

Table 1.--TRADE PRACTICE AND THEORY, AND RELATED SUBJECTS, SHOWING AMOUNT OF CREDIT REQUIRED IN SEMESTER HOURS IN EIGHT TEACHER-TRAINING COLLEGES FOR NEGROES

	Alabama, Tuskegee Institute	Arkansas, A. and M., Pine Bluff	Florida, A. and M., Tallahassee	Mississippi, Alcorn A. and M.	North Carolina A. and T., Greensboro	South Carolina A. and M., Orangeburg	Texas, Prairie View A. and M.	Louisiana, Southern University, A. and M.	Average semester hours
English	12	10	11	12	9	12	12	12	11.25
Mathematics	6	6	6	12	12	6	6	6	7.5
Chemistry	8	10	8	8	10		8	8	8.7
Physics or science survey	6	10	8	8	10	8	7	8	8.12
Mechanical drawing	6	16	6	12	10	14	6	8	9.75
Trade practice and theory	22	20	39	22	22	13	20	45	25.4

The average amount of credit in semester hours is shown for all of the trade and related courses in this table.

Table 2 shows the amount of credit in semester hours given to trade and industrial education subjects in eight teacher-training colleges in eight states. Five colleges offer shop organization and management and give credit of one and one-half to four semester hours. The average is 2.3 semester hours. Observation and practice teaching are given in eight colleges. Program of shop planning is given in one of the teacher-training colleges. The requirements for graduation for all courses of the curricula in the eight teacher-training colleges range from 120 to 138 semester hours. The findings on question A, "What is being taught in trade and industrial divisions of the state departments of vocational education or in schools designated for that purpose?" show the average in semester hours for trade, related and educational subjects.

The findings on question H, "What are the state requirements for teacher-training?" are shown in Table 3. Five states require three years of trade experience, one state requires two years of trade experience, six states require a college degree, two states require two years of teaching experience in the trade and industrial field, and one state requires 12 semester hours of professional education.

Table 4 gives the findings in answer to question E, "What positions do graduates obtain?"

Table 2.--INDUSTRIAL EDUCATION SUBJECTS, SHOWING AMOUNT OF CREDIT REQUIRED IN SEMESTER HOURS IN EIGHT TEACHER-TRAINING COLLEGES FOR NEGROES

	Alabama, Tuskegee Institute, Tuskegee	Arkansas A. and M. College, Pine Bluff	Florida A. and M. College, Tallahassee	Mississippi, Alcorn A. and M. College	North Carolina A. and T. College, Greensboro	South Carolina A. and M. College, Orangeburg	Texas, Prairie View N. and I. College	Louisiana, Southern University A. and M. College	Average semester hours
Shop organization and management		4		3	2	1½		3	2.3
Methods in industrial education	6	2	3	3	3	3	6	3	3.6
Organization of content		2							2.0
Observation and practice teaching	4	2	4	3	3	3	3	6	3.5
Principles of vocational education				3					3.0
Vocational guidance	2				2	1	3	3	2.2
History of industrial education			3	3	2	3		3	2.8
Trade and job analysis	2		3	3	4	1½	3	3	2.8
Administration of industrial education			3						3.0

Table 2.--INDUSTRIAL EDUCATION SUBJECTS, SHOWING AMOUNT OF CREDIT REQUIRED IN SEMESTER HOURS IN EIGHT TEACHER-TRAINING COLLEGES FOR NEGROES--Continued

	Alabama, Tuskegee Institute, Tuskegee	Arkansas A. and M. College, Pine Bluff	Florida A. and M. College, Tallahassee	Mississippi, Alcorn A. and M. College	North Carolina A. and T. College, Greensboro	South Carolina A. and M. College, Orangeburg	Texas, Prairie View N. and I. College	Louisiana, Southern University A. and M. College	Average semester hours
Educational psychology	2		3	3	3		3	3	2.8
Objectives and problems of vocational education	2								2.0
Vocational education seminar	3								3.0
Tests and measurements in industrial education	2				2				2.0
Program of shop planning	2								2.0
Semester hours for graduation	138	120	120	120	130	127	128	128	126.37

Table 3.--REQUIREMENTS FOR TEACHER-TRAINING IN SIX STATES AS REPORTED BY STATE TEACHER-TRAINERS

	Trade experi- ence	General edu- cation	Techni- cal edu- tion	Profes- sional education	Teaching experi- ence
Alabama	3 years	College degree	4 years	12 se- mester hours	
Arkansas*					
Florida	3 years	College degree		7 cour- ses, out- lined	2 years
Louisiana	3 years	College degree	12 semester hours	20 term hours	3 years
Mississippi	3 years	College graduate	Graduate engi- neering college	540 clock hours	2 years
North Carolina	3 years	College graduate	Techni- cal educa- tion	Re- quired	3 years
South Carolina	2 years	College graduate	2 years	Re- quired	
Texas	4 years	College graduate	4 years		3 years

\* The table shows that one state of the eight states surveyed gave no information on qualifications for teacher-trainers.

Table 4.--GRADUATES OF SOUTHERN UNIVERSITY TRADE AND INDUSTRIAL EDUCATION DEPARTMENT SHOWING TYPES OF POSITIONS OBTAINED

Year	Graduates	Positions			
		Teach trade	Teach Ind. Arts	Enter trade	U.S.N. U.S.A.
1941	9	5	1	1	2
1942	10	2		4	4
1943	7	1		2	4
1944	1	1			
Total	27	9	1	7	10

Information given in this table indicates that the graduates of Southern University enter four fields of employment. Of nine graduates of 1941, five entered trade teaching, one industrial arts teaching, one went into trade work, and two entered the armed forces. Of 10 graduates of 1942 two were trade teachers, four entered trade work, and four joined the armed forces. The total of 27 graduates of the four-year period showed that nine taught trade subjects, seven entered trade work, and 10 joined the armed forces.

The findings on question D, "What are the state requirements for trade and industrial teachers?" are revealed in Table 5. Alabama requires a minimum of three years of apprenticeship or trade training, three years of practical trade experience, two years of college education, and two years of teaching experience. Florida requires four years of trade training and two years of trade experience. Texas requires seven years of trade experience, and the completion of five vocational education subjects. Louisiana requires three years of trade training, six years of trade experience, two years college education, and the completion of four professional subjects.

The findings on question F, "What combination of duties and responsibilities do teachers report?" are in Table 6, representing 31 vocational shop teachers of Louisiana.

Table 6.--DUTIES AND RESPONSIBILITIES OF 31 TRADE AND INDUSTRIAL TEACHERS OF LOUISIANA NEGRO DEPARTMENTS

	Number teachers	Average hours per week
Repair and maintenance of school plant	12	6
Take in work from community	6	4
Teach related subjects	31	8
Full time teacher of trade	30	15
Sponsor trade and industrial club	2	1
Athletic coach	6	6
Band instructor	1	4
Sponsor Boy Scouts	3	1

Table 5.--MINIMUM STATE REQUIREMENTS FOR TRADE EXPERIENCE\*

	Alabama	Arkansas	Florida	Louisiana	Mississippi	North Carolina	South Carolina	Texas	Average
Years apprenticeship or trade training	3		4	3		3			3.25
Years trade practice	3		2	6	2		2	7	3.66
Years college education	2				2		1		1.6
College graduate									
Number of vocational education subjects			4	4	2		2	5	3.40
Years teaching experience	2								2.00
High school graduate				x					

\*These are the requirements as given by the state teacher-trainers of the states shown above.

Twelve teachers report they do repair and maintenance work on school plants with an average of six hours per week, six teachers take in work from the community, 31 teach related subject matter, and 30 are full time shop teachers. One teacher gives two hours per week instructing band, and three teachers sponsor Boy Scouts on an average of one hour per week.

The findings that pertain to question B, "What type and size of shops are used for training teachers?" are given in Tables 7 and 8. Table 7 shows that there are seven shops of brick construction, one of concrete construction, and two of frame construction. According to the information in this table, all of the shops are satisfactorily lighted and heated. Only one shop does not have a sufficient supply of equipment.

Table 8 shows the area in square feet of each of the shops in the colleges studied. The two shops at the Arkansas Agricultural and Mechanical College at Pine Bluff have an area of 1,400 square feet for masonry and 3,000 for electricity. South Carolina lists four shops for trade and industrial teacher-training: one woodwork of 3,000 square feet; one masonry shop, 1,400 square feet; one automobile mechanics shop, 3,000 square feet; and one print shop, 1,600 square feet. Southern University of Louisiana has one woodwork shop 2,000 square feet, one carpentry shop 1,400 square feet, one automobile mechanics shop 2,100 square feet,

Table 7.--TYPE OF SHOPS IN EIGHT TEACHER-TRAINING COLLEGES FOR NEGROES, USED FOR TRAINING TEACHERS

Type of shops	Alabama N. and I.	Arkansas A. and M., Pine Bluff	Florida A. and M., Tallahassee	Mississippi, Alcorn A. and M.	North Carolina A. and T.	South Carolina A. and M., Orangeburg	Texas, Prairie View N. and I.	Louisiana, Southern University A. and M.	Total number of shops
Brick building		1	1	1	1	1	1	1	7
Frame building	1							1	2
Stone and concrete building								1	1
Number of rooms	4	3	8	6	7	10	13	10	61
Satisfactorily lighted	x	x	x	x	x	x	x	x	8
Satisfactorily heated	x	x	x	x	x	x	x	x	8
Sufficient supply of equipment	x		x	x	x	x	x	x	7

Table 8.--SIZE OF SHOPS IN EIGHT TEACHER-TRAINING COLLEGES, SHOWING AREA IN SQUARE FEET

Teacher-training colleges for Negroes	Woodwork and carpentry	Masonry shop	Electric shop	Auto mechanics	Print shop	Tailor shop	Paint shop
Alabama Normal and Industrial					1,000	800	
Arkansas A. and M., Pine Bluff		1,400	3,000				
Florida A. and M., Tallahassee	3,000	2,000	1,200	1,000	1,400	600	900
Mississippi Alcorn A. and M.	2,000	2,000	3,000	2,000			2,000
North Carolina A. and T.	1,500	3,000	2,000			600	
South Carolina A. and M.	3,000	1,400		3,000	1,600		
Texas, Prairie View Normal and Ind.	2,000		1,600	2,000	2,500	1,200	1,600
Louisiana Southern University	2,000 1,400			2,100	2,500	700	
Average size	2,140	1,760	2,160	2,020	1,800	780	1,500

and one print shop 2,500 square feet. The average size for tailor shop is 760 square feet, and for electric shop 2,160 square feet.

The findings that pertain to question C, "What equipment is available in teacher-training shops?" are given in Tables 9 to 15. In Table 9, the equipment available for woodwork shops, it is revealed that South Carolina Agricultural and Mechanical College has six framing squares, 16 cross-cut saws, and eight levels, all of which are hand tools. The machines include one jointer, one surfacer, and one mortiser. The table also shows that Southern University of Louisiana has six framing squares, 20 planes, and 10 levels among the hand tools, and one shaper, one band saw, and two lathes among the machines.

Table 10 gives the equipment that is available for masonry. Arkansas has 10 levels, 24 brick trowels, eight brick hammers, and eight floats among the available tools. South Carolina has four levels, 15 trowels, one transit, and one concrete mixer as a part of the machine equipment.

Table 11 reveals the equipment that is available in the electric shops of the teacher-training colleges. Arkansas has five pliers, 12 screwdrivers and one blow torch or furnace among the hand tools available, and has one electric gauge, one voltmeter and one wattmeter among the electrical instruments. Texas



Table 10.--MASONRY EQUIPMENT

Teacher-training colleges for Negroes	Hand tools												Machines			
	Levels	Squares	Rules	Hammers	Mortar hoes	Shovels	Brick trowels	Screens	Plaster trowels	Mortar boxes	Brick hammers	Hawks	Grovers	Floats	Transits	Concrete mixers
Alabama N. and I.																
Arkansas A. and M., Pine Bluff	10	2	6	4	1	3	24	1	10	1	8		1	8		
Florida A. and M., Tallahassee	12	4		6	4	4	13	1	8	2	13		4	6		
Mississippi, Alcorn A. and M.	12	2		4	2	3	12	1	6	2	4	6	1	4	1	
North Carolina A. and T.	12	4	1	6	3	2	21	1	4	2	15		6	6		1
South Carolina A. and M.	4	4	3	5	3	3	15	1	8	2	4		3	10	1	1
Texas, Prairie View N. and I.																
Louisiana Southern University																
Average	10.	3.2	3.3	5.0	2.6	3.0	17.	1.0	7.0	1.8	8.8	1.0	3.0	6.8	1.0	1.0

Table 11.--ELECTRIC SHOP EQUIPMENT<sup>#</sup>

Teacher-training colleges for Negroes	Hand tools											Instruments and machines														
	Pliers	Bench grinders	Screwdrivers	Hack saws	Brit braces	Socket wrenches	Auger bits	Compass saws	Wire gauges	Pole climbers	Blow torch or pot	Lathes	Arc welders	Armatures	Magnetic analyzers	Electric gauges	Voltmeters	Wattmeters	Test kits	Electric drills	Motors	Electric saws	Generator sets	Work benches	Hammers	Reamers
Alabama N. and I.																										
Arkansas, A. and M., Pine Bluff	5	1	12	2	2		3			1	1				1	1	1	1						1	6	
Florida, A. and M., Tallahassee	10	1		2	2		36		2				3		1	3	2	1	1	15				2	6	1
Mississippi, Alcorn A. and M.	28	1	28	1	3	24	13		2	2	1	1							1	1				1	8	
North Carolina A. and T.	2	1	3	2									10			10	3	4		5				2	4	
South Carolina A. and M.				2																				2	5	
Texas, Prairie View N. and I.	1	1		2	2		3		1		1		1			1			1		1	1	3	6	1	
Louisiana, Southern University																										
Average	9.2	1.0	14.3	2.0	2.2	24.0	13.5		1.6	1.5	1.0	1.0		4.6		1.0	3.7	2.0	2.0	1.0	10.0	1.0	1.0	1.8	6.0	1.0

<sup>#</sup> Recommended tool list by Bruce Manual, Industrial Arts and Vocational Education Magazine, March, 1942.

has in its equipment two bit braces, one wire gauge and one blow torch, all of which are hand tools, and the electrical instruments include one armature, one voltmeter and one generator set.

The items for automobile equipment are given in Table 12. Texas, Prairie View Normal and Industrial has one air compressor, one valve grinder, one drill press, one welding outfit and one battery charger among the machines. South Carolina has 29 end wrenches, 150 socket wrenches and 32 pliers among the hand tools of the equipment, and two air compressors, three grease guns, one battery charger and two cranes among the machines available. Southern University of Louisiana has among the hand tools available 75 end wrenches, 60 socket wrenches and 20 pliers. Among the machines there are two valve grinders, two battery chargers, two welding outfits, and two car hoists.

The printing shop equipment representing five of the teacher-training shops is given in Table 13. Two of the college shops have one book binding unit each. Four shops have four cabinets each, and two shops have two cabinets each. One college has one linotype, and three colleges have two linotypes each. One of the shops has two folding machines, and one has one folding machine. The average number of folding machines is 1.5.

Table 14 gives the tailoring, cleaning and



Table 13.--PRINTING SHOP EQUIPMENT<sup>#</sup>

Teacher-training colleges for Negroes	Bookbinding units	Cabinets	Cases	Chases	Composing sticks	Cutters	Folding machines	Glue pots	Linotypes	Mitering machines	Numbering machines	Planers	Presses	Punch machines	Saw trimmers	Staple binders	Type supply cases	Furniture cases	Proof presses	Composing tables	Punches	Stitchers	Line gauges	Galleys
Alabama N. and I.		4	64	3	9	1			1		2	1	2	1	1	2	8	1	1					
Arkansas A. and M., Pine Bluff																								
Florida A. and M., Tallahassee		4	100	11	6	2			2		1	2	3		1	1		6	1					
Mississippi, Alcorn A. and M.																								
North Carolina A. and T.																								
South Carolina A. and M.	1	2	2	4	6	2		2			1		2	1		1	40	2	1					
Texas, Prairie View N. and I.		4	72	8	15	1	2	1	2	1	13	1	3	1	1	1	50		1					
Louisiana, Southern University	1	4	106	11	12	1	1	2	2	1	5	3	4		1	2	90	2						
Average	1	3.6	68.8	7.4	9.6	1.4	1.5	1.6	1.7	1.0	5.4	1.7	2.8	1.0	1.0	1.4	47	2.7	1.0					

<sup>#</sup> Equipment list from Bruce Manual, Industrial Arts and Vocational Education Magazine, March, 1942.

Table 14.--TAILORING, CLEANING AND PRESSING EQUIPMENT

Teacher-training colleges for Negroes	Sewing machines	Buttonhole machines	Invisible stitchers	Pinking machines	Serging machines	Burk boards	Pressing boards	Sleeve boards	Try-on forms	Display forms	Drafting tables	Pressing tables	Display cases	Electric pressing irons	Try-on mirrors	Storage tanks	Filters	Washers	Extractors	Tumblers	Pressing machines	Drying machines	Spotting machines	Steam boilers
Alabama N. and I.	5					4				2	1	1		5	1	1	1	1	1	1	1	1		1
Arkansas A. and M., Pine Bluff																								
Florida A. and M., Tallahassee	10					3	3	2			2	2		2	1									
Mississippi, Alcorn A. and M.																								
North Carolina A. and T.	11					2	2	1			7	1		1	1									
South Carolina A. and M.																								
Texas, Prairie View N. and I.	8	1	1	1	1	4	2	2		4	5	2		3	1	1	1	2	1	1	3	2	1	1
Louisiana, Southern University	6	1	2	2	1	4	4	1	2	1	4	2	1	3	1	1	1	1	1	1	1	1	1	1
Average	8.0	1.0	1.5	1.5	1.0	3.4	2.7	1.5	2.0	2.6	3.8	1.6	1.0	2.8	1.0	1.0	1.0	1.3	1.0	1.0	1.6	1.3	1.0	1.0

pressing equipment in five of the eight teacher-training shops. One of the shops has five sewing machines; one has 10; and one shop has eight. Two shops have two drafting tables; one has seven; and one has one. Three shops have one extractor each, and three shops have one filter each.

Two of the eight teacher-training colleges report paint shop equipment in Table 15. One shop has three step ladders and one has seven. One shop has one spray gun outfit and one has three spray gun outfits. Florida Agricultural and Mechanical College has three step ladders, three extension ladders, 12 smoothing brushes, and one spray gun outfit. Prairie View Normal and Industrial College has seven step ladders, 10 hammers, three spray gun outfits and one glazing machine.

Table 15.--PAINT SHOP EQUIPMENT

Teacher-training colleges for Negroes	Work tables	Step ladders	Extension ladders	Hammers	Blow torches	Smoother brushes	Extension guns	Striping brushes	Knives	Paper trimmers	Shears	Set of scales	Spray gun outfits	Stencils	Stencil knives	Window jacks	Wire brushes	Glazing machines
Alabama N. and I.																		
Arkansas A. and M., Pine Bluff																		
Florida A. and M., Tallahassee		3	3	1	1	12				6			1			2	3	1
Mississippi, Alcorn A. and M.																		
North Carolina A. and T.																		
South Carolina A. and M.																		
Texas, Prairie View N. and I.	6	7	2	10	1	2	1	1	7	1	3	1	3	4	6	4		
Louisiana, Southern University																		
Average	6.0	5.0	2.5	5.5	1.0	7.0	1.0	1.0	7.0	3.5	3.0	1.0	2.0	4.0	6.0	3.0	3.0	1.0

## Chapter V

### DISCUSSION AND RECOMMENDATIONS

Trade and industrial teacher-training in the southern region has been carried on for 20 years, and available research was gathered to provide answers to questions pertaining to needed changes and improvements in trade and industrial teacher-training for Negroes.

This discussion is presented in three parts: (1) teacher-training curricula, (2) duties and responsibilities of Negro trade and industrial teachers, and (3) plant and equipment used for trade and industrial teacher-training.

The information gained on teacher-training curricula is given in Chapter IV under question A, "What is being taught in the trade and industrial divisions of the state departments of vocational education or in schools designated for that purpose?" and question H, "What are the state requirements for teacher-training?"

The academic subjects offered in the eight teacher-training colleges give a total average of 70.7 semester hours, namely: English, 11.24; mathematics, 7.50; chemistry, 8.40; science survey or physics, 8.16; and electives, 35.50. The state plans for vocational

education do not designate the amount of credit required in these subjects. This is left to the teacher-training college curricula that has been set up in catalogues and approved by the state boards of education.

Comparing the courses and credits of the colleges, one college required 52 semester hours credit in the academic subjects, and one college required 87 semester hours (Table 16). The average for the eight colleges was 70.7 semester hours. Southern University of Louisiana requires 66 semester hours, which is 4.6 semester hours less than the average. Inasmuch as there is a wide range, 52 to 87 semester hours, in the colleges studied, and since Southern University required an average number of semester hours in the academic subjects, no change is recommended for this college.

Table 16, which follows, gives the amount of credit provided in eight teacher-training colleges for Negroes in required academic courses.

Before making recommendations for Southern University, it was necessary to note the changes made for Louisiana teacher-training colleges that affect the curricula beginning with the 1944 session, as published in bulletin 497, October, 1943, by the Louisiana State Department of Education as follows:

To be eligible for employment in the public schools of Louisiana a teacher must hold a valid teacher's certificate issued by the Louisiana

Table 16.--CREDIT IN SEMESTER HOURS OF EIGHT STATE TEACHER-TRAINING COLLEGES FOR NEGROES

Credit semester hours	Alabama	Arkansas	Florida	Missis- sippi	North Carolina	South Carolina	Texas	Louisiana	Average
Academic sub- jects re- quired	32	36	42	40	49	26	33	35	35.2
General and electives	53	38	10	25	28	61	51	31	35.5
Average	85	74	52	65	77	87	84	66	70.7
Trade subjects	28	36	45	34	32	37	26	45	36.8
Professional subjects	25	10	19	21	21	13	18	23	18.8
Total credits required	138	120	120	120	130	127	128	134	128.3

State Department of Education, the requirements for which are determined by the State Board of Education. No person who lacks this certificate can be employed legally for administrative, supervisory, teaching, or other professional services in the public schools of this state.

MINIMUM GENERAL, PROFESSIONAL AND  
SPECIALIZED EDUCATION FOR TEACHER-  
EDUCATION CURRICULUMS

The minimum quantitative standard for any of the general types of teaching certificates shall be a baccalaureate degree awarded by an approved college, based on four years of higher education.

Certificates of Types A, B, and C shall be based on graduation in an approved curriculum of four years of general, professional, and specialized education (a minimum of 124 semester hours), to be distributed as follows: A minimum of 50 semester hours in general education; a minimum of 18 semester hours in professional education; and the remainder devoted to special subject fields for authorization of employment for high-school teaching, or to additional general and professional education for authorization of employment for elementary-school teaching.

The general, professional, and specialized education shall be distributed as follows:

General Education (a minimum of 50 semester hours):

1. English: A minimum of 12 semester hours, to be determined by the institution. Correct spoken and written English as well as literature should be emphasized.
2. Social studies\*: A minimum of 12 semester hours, to be determined among the following three areas:
  - a. A study of the historical growth and development of the race (world history or American history)

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\* At least 3 semester hours in American history shall be required.

- b. A study of the economic and socialized aspects of modern industrial society (economics, sociology, geography)
  - c. The development of certain attitudes, ideals, and responsibilities concerning government and American democracy (political science; American government; with emphasis on local and state governments)
3. Science: A minimum of 12 semester hours: Not less than 3 semester hours in biological science and not less than 3 semester hours in physical science shall be required. Each institution shall determine the type of biological or physical science that shall be offered.
  4. Mathematics: A minimum of 6 semester hours to be determined by the institution.
  5. Health and physical education: A minimum of 6 semester hours, distributed as follows:
    - a. Four semester hours in physical-training (activity) courses
    - b. Three semester hours in health and safety education
    - c. One semester hour in first aid

The organization and content of a, b, and c should be such as to provide a broad approach to the basic problems of safe and healthful living by the individual and the community.

Professional Education ( a minimum of 18 semester hours):

Distribution for General Types of Certificates:

1. At least 3 semester hours in history or education, introduction to education, foundations of education, and/or philosophy of education.

2. At least 3 semester hours in educational psychology and/or principles of teaching.
3. At least 4 semester hours in student teaching. (8:3,10-12)

The requirement for English in one of the colleges was nine semester hours, and in five of the colleges it was 12 semester hours, the average being 11.25. Inasmuch as Southern University requires 12 semester hours, no change is recommended.

Six of the colleges listed six semester hours as the requirement for mathematics and two colleges listed 12 semester hours, the average being 7.5. Southern University requires six semester hours, which is a difference of 1.5. Since six of the colleges had the same requirement, no change is recommended for Southern University.

Science survey was offered in three colleges instead of physics. For this course one college required six semester hours, and two colleges required 10 semester hours. The average was 8.16 semester hours. Southern University requires eight semester hours, and no change is recommended.

The average for the required academic subjects in the trade and industrial education curriculum in these states was 35.2 semester hours. Since Southern University offers 35 semester hours, no change is recommended.

The average of electives in academic subjects

of the trade and industrial curriculum was 35.5 semester hours. One college offered 10 semester hours, and one college offered 61 semester hours. Southern University lists 31 semester hours for the electives, which is 4.5 below the average, but no change is recommended.

It is recommended for Southern University that the academic subjects be as follows: English, 12 semester hours; sciences, 17 semester hours; mathematics, 6 semester hours; electives, 66 semester hours.

The trade and industrial subject requirements in the eight teacher-training colleges average 36.8 semester hours for each trade given in these colleges. Southern University requires 45 semester hours for all trades. Each student chooses one trade and is required to complete 45 semester hours in that field.

The state requirements, according to the findings given in Table 3, page , are three to four years of trade training and two to seven years of trade experience. The state plans examined on this item do not designate the credit required for trade courses.

The Louisiana State Plan in referring to organized teacher-training and course of study states: "The length of the course shall be two years or not less than 120 clock hours (7:106)." For continuation teachers: "At least one year. In unit hours the

course shall cover 36 clock hours (7:117)." Otherwise the credit given for teacher-training courses is left to the state teacher-training colleges to set up in their catalogues when they have been approved by the state boards of education.

In addition to the 134 semester hours required for graduation at Southern University (Table 16), students working toward degrees in trade and industrial education are expected to work at their trade for at least two summers during the four year period under the supervision of a representative of the mechanic arts department. Students put in regular time with pay according to prevailing wage. This is done in order to observe the student on the job and to give him more trade experience. This program was put into effect because students were allowed to enter the department without having enough trade experience to qualify them as tradesmen, and it gives the teachers an opportunity to follow up and help the student during this period.

Since this is the major field and the trade experience requirements for certification are six years (8:14-15) which few students meet because of no trade experience pre-requisite (8:14-15) and since the satisfactory completion of 45 semester hours of shop work will give the student credit for three years of trade experience (8:14-15), it is recommended that

no change be made in present shop requirements.

Southern University offers shop training in automobile mechanics, printing, tailoring, woodwork and carpentry. Masonry is not taught at Southern University but is taught in five of the other seven colleges of this study. Therefore, masonry is recommended for Southern University. This will require a masonry teacher. It is also recommended that a masonry teacher be provided.

Six of the other seven colleges offer courses in electricity; Southern University does not offer electrical courses. It is therefore recommended that provision be made for electrical courses and that a teacher for these courses be employed for Southern University.

According to the findings shown in Table 16 the eight teacher-training colleges represented give an average credit of 18.8 semester hours in the professional subjects. Table 17 gives the professional subjects taught, the average credit, and the credit required by Southern University, the total of which equals 23 semester hours. The average for the eight colleges is 18.8 semester hours, 4.2 semester hours less than that offered by Southern University. On the basis of the new program, and because the requirement is higher than average, no change is recommended for Southern University.

Table 17.--INDUSTRIAL EDUCATION SUBJECTS LISTED IN THE ORDER OF FREQUENCY TAUGHT, GIVING AVERAGE CREDIT IN SEMESTER HOURS

Subjects	Number of colleges listing subjects	Average credit	Southern University credit
1. Methods of teaching industrial subjects	8	3.60	3
2. Observation and practice teaching	8	3.50	6
3. Trade and job analysis	7	2.80	3
4. Educational psychology	6	2.80	3
5. Shop organization and management	5	2.30	2
6. Vocational guidance	5	2.20	3
7. History of industrial education	5	2.80	3
8. Tests and measurements in industrial education	2	2.00	
9. Principles of vocational education	1	3.00	
10. Vocational education seminar	1	3.00	
11. Objectives and problems in vocational education	1	2.00	
12. Administration of industrial education	1	3.00	
13. Organization of content	1	2.00	
14. Program of shop planning	1	2.00	

Comparing the courses and credits of the colleges, all eight colleges gave methods of teaching industrial subjects, with an average credit of 3.6 semester hours. One college gave two semester hours, and two colleges gave six semester hours. Southern University gives three semester hours, and no change is recommended.

All eight of the colleges of this study required observation and practice teaching, the total average of which was 3.5 semester hours. One college required two semester hours, and one college required six semester hours. Southern University requires six, and no change is recommended.

Trade and job analysis was given by seven of the colleges with an average of 2.8 semester hours. Most of the state plans listed this subject among those from which selection may be made.

Comparing the courses and credits of professional education of the colleges, one college gave one and one-half semester hours credit and one college required four credits. The average for the seven colleges was 2.8 semester hours. Southern University requires three credits, a difference of 0.2. No change is recommended.

Educational psychology was taught in six of the state teacher-training colleges as a required professional subject for trade and industrial teachers.

The findings, as shown in Table 17, give the total average as 2.8 semester hours. The state plans examined on this item did not list educational psychology as a professional subject for this field. One of the six colleges required two credits, and four colleges required three credits, the average being 2.8. Southern University gives three credits, and no change is recommended.

Five of the colleges gave shop organization and management with an average credit of 2.3. Most of the state plans listed this course but did not make requirements for credit. South Carolina Agricultural and Mechanical College for Negroes gave four credits, and the average for all colleges studied was 2.3 semester hours. Southern University gives two credits, and no change is recommended.

Vocational guidance was offered by five of the teacher-training colleges, the average credit in semester hours being 2.2 credits. One of the colleges of this study required a credit of one semester hour and two colleges required three semester hours. Southern University required three semester hours, and no change is recommended.

Five of the eight colleges gave history of industrial education, with an average of 2.8 credits. One college gave two credits and four colleges gave three credits. Southern University gives three credits.

The difference is 0.2 credits. Therefore, no change is recommended.

It is recommended that the professional education pattern of Southern University be continued without change, and that the following subjects and credits be given:

<u>Subject</u>	<u>Semester Hours</u>
1. Methods of teaching industrial subjects	3
2. Observation and practice teaching	6
3. Trade and job analysis	2
4. Educational psychology	3
5. Shop organization and management	3
6. Vocational guidance	3
7. History of industrial education	<u>3</u>
Total	23

The total number of credits for graduation in these colleges in trade and industrial education was 120 semester hours for three colleges, and 138 semester hours for one college, the average being 128.3 semester hours. Southern University requires 134 semester hours. The difference is 5.7 semester hours.

The data gathered in this study served as a means of checking the academic pattern of requirements of the trade and industrial education majors. This pattern was found to be adequate. Therefore, no change is recommended for this total requirement of 35 semester

hours.

For the professional subjects the data gathered in this study served as a means of checking the pattern of requirements of the trade and industrial education majors. This pattern was found to be adequate. Therefore, no change is recommended for the total requirements of 23 semester hours and course titles.

The evidence gathered in this study served as a means of comparison against which to check the pattern of required shop offerings for trade and industrial education majors. It was found that the present pattern is adequate to meet the needs of the trade and industrial education majors when they assumed their teaching positions. Therefore, no change is recommended.

The trade and industrial teacher-training program for Negroes in the southern region presents many responsibilities for teachers of trade and industrial education. The findings that are available on the following questions:

- E. What positions do graduates obtain?
- D. What are the state requirements for trade and industrial teachers?
- F. What combination of duties and responsibilities do teachers report?

G. How have teacher-training curricula been modified in the light of reports of teachers? give information pertinent to needed changes in the program of teacher-training.

Question E, "What position do the graduates obtain?" is answered for Southern University in Table 13, which gives the positions of graduates covering a four-year period. Data were limited to a four-year period because the first class to graduate with a degree in trade and industrial education from this college was in 1941. Before that time, only trade certificates were given to those who completed the trade courses.

Southern University, in 1941, had nine graduates from the trade and industrial education curriculum: five teach trades, one teaches industrial arts, and one entered trade work. The other two are in the armed forces. In 1942 there were 10 graduates, two of whom teach trade subjects, four of whom entered trade work and four of whom joined the armed forces. There were seven graduates in 1943, one of whom teaches trade subjects, two who entered trade work and four who joined the armed forces. In 1944 only one person graduated from the industrial education department, and he entered trade teaching. Of the 27 graduates, nine entered trade teaching, one industrial arts teaching, and seven entered trade work as skilled workers in war

production. The other 10 entered the armed forces. Only 33 per cent of these graduates entered trade teaching. The fact that 18.6 per cent went into war production work can be expected for three reasons: (1) it is a war service; (2) they have to have six years of trade experience before they can qualify to teach trade subjects, and (3) the income of skilled workers is higher than that of teachers.

Many of the students who receive degrees from the mechanic arts department must work as apprentices for one or two years before they are considered master tradesmen, a qualification which is needed to meet trade experience requirements.

Skill is the first consideration in the selection of trade teachers. In order that students be well trained in the skills of the trade in which they expect to teach, it has been previously recommended that 45 semester hours of shop training is required which includes theory and practice and which carries three years credit for trade experience.

Table 5, page 67, gives the minimum state requirements for teaching trade subjects as reported by the state teacher-trainers in seven of the teacher-training colleges as follows: three states require three years of apprenticeship or trade training, and one state requires four, the average being 3.25 years. Louisiana requires six.

Southern University does not require trade experience before entering the trade and industrial teacher-training division. The amount of training in clock hours for the 45 semester hours recommended and approved will amount to 1,188 clock hours. A two-year trade course in vocational shops below college level requires 1,440 clock hours, including trade practice and theory in both cases. The difference is 252 clock hours less for Southern University. With trade training on a college level, students will advance faster in theory but not in the development of skill.

The problem of having prospective teachers meet trade requirements when they graduate is a difficult one because many of them have only three years trade experience when they graduate, as a result of the completion of 45 semester hours of shop training. Under the present conditions many graduates have to work for as many as three years in industry immediately after graduation to meet the trade requirement of six years of experience. During this period the graduates forget many of the teaching skills and techniques that they learned in college. To overcome this difficulty it is recommended that trade and industrial majors be required to present proof of three years or more of trade experience as a prerequisite to entering Southern University. The three years of experience that the student has before he enters Southern University plus

the three years that he earns while at this college will give him a total of six years of trade experience and qualify him to teach immediately after he is graduated (8:14,15).

Beyond the qualification of trade experience there is the qualification of college training that is needed by trade and industrial teachers. State requirements have been set up to cover this point.

In answering question D, "What are the state requirements for trade and industrial teachers?" reference is made to the requirements of the United States Office of Education as set up in Statement of Policies for the Administration of Vocational Education as follows:

Teacher-training funds may be used for the preparatory training of teachers and for the improvements of teachers in service, when proposed by the State board and approved in the State plan (20:35).

The requirements of trade and industrial teachers differ in the various states. Although the state plans for vocational education are set up and approved by the state boards of education, they are designed to meet the requirements of the United States Office of Education. The state teacher-training colleges in planning their curricula for preparing trade and industrial teachers must meet the provisions of the state plans in order that teachers may qualify for approval by the state boards of education (19:129-30).

Alabama (1:56-58) requires a vocational professional certificate but does not designate the courses and amount of credit. Florida (4:50-51) specifies 120 clock hours in professional education subjects. The Mississippi State plan (11:38) states that teachers shall be required to pursue certain teacher-training courses, but specifies 540 clock hours for teacher-trainers.

A more recent bulletin on teacher certification by the Louisiana State Department of Education (8:18-20) gives the requirements as 18 semester hours in professional education which must be completed before a permanent certificate will be issued and lists the subjects from which these credits are to be earned as follows: (1) Trade and job analysis, (2) curriculum construction in vocational and industrial education, (3) methods of teaching in vocational industrial education, (4) practice teaching in vocational industrial education, (5) job and operation analysis; (6) principles of vocational industrial education, (7) shop management and safety; (8) vocational guidance; (9) history of industrial education, (10) industrial sociology, and (11) educational psychology. Since the recommended professional pattern of courses, page , is 23 semester hours, and since the subjects are among those given above, no change is recommended.

These professional requirements are

interesting to consider in terms of duties and responsibilities that trade and industrial teachers report.

Many responsibilities are common to shop teachers in answer to question F, "What combination of duties and responsibilities do teachers report?"

Thirty-one teachers of Louisiana trade and industrial departments report eight duties. Table 6, page , shows that regular duties are performed as follows: 31 teach a trade, 31 teach related subjects, 12 do maintenance work, and six take in work from the community. Twelve of the 31 teachers conduct an extra-curricular activity in addition to their trade teaching duties as follows: six coach athletics, three sponsor Boy Scout groups, two sponsor clubs, and one instructs the band.

These extra duties reported by teachers in the field must be performed by them in a satisfactory manner, but their pattern of courses as based on state requirements gives them little or no training with which to meet and discharge these duties. The problems can be taken care of by Southern University by the cooperation of various departments. In order to help those who coach, the physical education department will provide for them through the regular and summer school

programs. If there is need for scout training, a specialist in scout training could be called in and given a place in the vocational guidance course. Teachers who need special help with their mathematical problems in related subjects may be helped through the mathematics department, but the methods of teaching such subjects should be given through the methods courses in industrial education. For special problems it will be well to use experts in the particular field to come in and take part in conferences and short courses and regular classes. In many cases such persons will be provided through the State Department of Education. The college in some cases may provide them through other sources.

While the teachers in the field report duties for which there obviously are no training provisions, Question G, "How have teacher-training curricula been modified in the light of reports of teachers?" arises.

There have been no requests from these graduates for modification of the program at Southern University. This seems to be true because the oldest graduates of the trade and industrial education division in point of experience have been out for only four years and during this time conditions have been very unusual and unsettled due to the war. It seems highly desirable and is recommended that college faculty members of the trade and industrial education division

keep in touch with the graduates in the field to get their criticisms and suggestions for improving the teacher-training program.

Three patterns have been recommended for training trade and industrial education majors at Southern University: an academic pattern, a shop pattern, and a professional pattern. These patterns were checked against the state requirements, duties and responsibilities of teachers, and teachers' requests. As a result of this check it was found unnecessary to modify further the recommended academic pattern. The recommended professional pattern is satisfactory from the standpoint of course titles and required hours, but it needs revision in emphasis and course content and in methods of teaching related subjects. It is recommended that three years of trade experience be required for college entrance in order that the graduates will be prepared to meet the trade requirement for teaching when completing the college course. It is further recommended that instruction be added and an instructor be employed in masonry and electricity to increase the range of shop offerings to include automobile mechanics, woodwork and carpentry, printing, tailoring, masonry and electricity.

The last consideration in evaluating the adequacy of provisions for training trade and industrial teachers at Southern University is shop facilities.

The type of shops and the equipment for shops are important factors in a teacher-training program. The findings on question B, "What type and size of shops are used for training teachers?" and question C, "What equipment is available in teacher-training shops?" give information in determining the adequacy of shop space and equipment presently available at Southern University for training trade and industrial teachers. An analysis of the amount of shop space provided by the eight teacher-training colleges reveals the following: The average size of the woodwork shops is 2140 square feet; the range is 1400 to 3000 square feet; the difference between the smaller of the woodwork shops of Southern University and the average is 740 square feet. An adequate size for woodwork shop is 3,500 square feet as determined by Struck (17:323). Therefore, it is recommended that this shop be increased to 3,500 square feet. If the smaller shop is made adequate in size, the larger present shop could be regarded as an auxiliary woodwork shop, because no other of the colleges has two woodwork shops. Since this larger shop is approximately equal to the size of the average size shop in the eight colleges, no change is recommended.

Five of the teacher-training colleges have a masonry shop, the average size of which is 1,760 square feet. The range is 1,400 to 3,000 square feet. Southern University does not have a masonry shop.

The adequate size for a masonry shop according to Struck (17:323) is 3,500 square feet. Since five of the eight teacher-training colleges have a masonry shop, it is recommended that a masonry shop of adequate size be provided for Southern University.

The average size of the electric shop for five of the colleges is 2,160 square feet. The range is 1,200 to 3,000 square feet. Southern University does not have an electric shop for training teachers. Since five colleges have an electric shop, and Struck (17:323) gives the adequate size of electric shop to be 3,500 square feet, it is recommended that Southern University have an electric shop of adequate size.

Auto mechanics is taught in five teacher-training college shops, the average size of which is 2,020 square feet; the range is 1,000 to 3,000 square feet. The shop for Southern University is 2,100 square feet. An adequate size shop for automobile mechanics is 4,500 square feet, as found by Struck (17:323). It is recommended that the shop for Southern University be increased to 4,500 square feet.

The average size for print shop is 1,800 square feet; the range is 1,000 to 2,500 square feet. The print shop for Southern University is 2,500 square feet. According to Struck (17:323), the adequate size for print shop is 2,500 square feet. Therefore, no change is recommended for this college.

The average size for a tailor shop is 780 square feet; the range is 600 to 1,200 square feet. The tailor shop at Southern University is 700 square feet. Struck (17:323) found the adequate size for industrial arts and other shops of small equipment to be 1,500 square feet. It is recommended that Southern University tailor shop be increased to 1,500 square feet.

The paint shops have an average of 1,500 square feet for three colleges; the range is 900 to 2,000 square feet. Struck's (17:323) investigation revealed the adequate size to be 1,500 square feet. Southern University does not have a paint shop. Since only three of the eight colleges provide separate paint shops, the addition of a separate paint shop for Southern University is not recommended.

The shop building at Southern University is not large enough to house all of these shops. The present building can be changed by taking the present small carpenter shop and the adjoining auto mechanics shop and making one shop to be used for carpentry which will give the adequate size of 3,500 square feet. The other shops that are to be increased to 3,500 and 4,500 square feet will have to be provided for in a new building. Such a building should have a floor area of 7,360 square feet or 46 feet wide by 160 feet long, the first floor to be used to accommodate an automobile

shop and a masonry shop, since the nature of the work requires that these shops be on the ground floor. The second floor may provide space for the recommended tailor shop and the electric shop.

Providing added shop space for Southern University will make it possible to carry on a trade training program that equals or exceeds the standard of seven other Negro teacher-training colleges in the southern region.

The need for equipment in the shops just described has been investigated and information is given in Tables 9 to 15, pages 73 to 81. This reveals the available equipment in hand tools and machines of the shops in the eight state teacher-training colleges for Negroes in this study. Table 9 gives the equipment for woodwork and carpentry for six of the eight colleges and shows the amount for each college and the average amount for all colleges. Southern University ranks high in hand tools and above average in 18 out of 27 groups of tools. No change is recommended. The average for a jointer machine is one; the range is zero to one. Southern University does not have a jointer. Since four of the six colleges that reported woodwork shops have a jointer, it is recommended that Southern University provide a jointer. The average for a planer machine is one; the range is zero to one. Southern University does not have a planer. It

is recommended that a planer be provided for Southern University.

The findings on masonry tools and equipment for five teacher-training colleges as shown in Table 10 reveals that Southern University does not have masonry equipment. Since five of the other seven colleges have masonry equipment, and it has been previously recommended that Southern University have a masonry shop, it is recommended that Southern University have masonry equipment equal to the average of the other colleges.

Electric shop equipment is given in Table 11, which shows that Southern University does not have electric equipment for training teachers. Since five of the other seven colleges represented have electric equipment and it has been recommended that Southern University have an electric shop, it is recommended that Southern University have electric equipment equal to the average of the other colleges.

The automobile shop equipment given in Table 12 shows hand tools and machines used for training teachers in automobile mechanics in five of the colleges giving the amount of equipment for each college and the average amount for all the colleges. Southern University ranks high in the equipment and above average in part. Therefore, no recommendations for additional equipment are made.

Print shop equipment, as shown in Table 13, lists the findings for five college print shops showing the amount for each college and the average amount for all colleges. Southern University ranks high on all equipment. The table shows that four of the five colleges have a proof press and that Southern University does not have a proof press. A proof press is recommended for this university.

The survey of teacher-training shops, as revealed in Table 14, page 79, shows the tailoring equipment for five of these shops giving the amount for each college and the average for the five colleges. Southern University ranks high with the average but is found to be below average on sewing machines. One college has five sewing machines, and one college has 11; the average is eight. Southern University has six, which is two less than the average. It is therefore recommended that two additional sewing machines be provided for Southern University.

Since Southern University has no paint shop, and only two of the colleges have separate paint shops, the problem of equipment is not being considered here.

Satisfactory teacher-training in trade and industrial education cannot be carried on in the teacher-training colleges without adequate shops and equipment. The recommended curriculum for Southern

University as outlined in this chapter will not be satisfactory until adequate size shops are provided and the required equipment is available.

#### Summary and Recommendations

The comparison of the findings revealed that the pattern of academic and trade and industrial education for Negroes in the southern region presented different requirements in the various states and the teacher-training colleges. The pattern of the academic subjects required no change for Southern University. The shop pattern required a change in amount of credit. The professional pattern did not require a change in title and number of subjects, but in course organization and content in order to help teachers meet their responsibilities.

The summary of the recommendations for continuing or changing Southern University's pattern of curriculum to meet the standards of the other teacher-training colleges follows.

1. The present pattern of academic requirements for trade and industrial education majors should be continued without change.
2. Masonry should be included among the trades taught at Southern University and a masonry teacher should be employed.
3. Electricity should be included among the trades taught at Southern University and an electric

- shop teacher should be employed.
4. The present entrance requirements for trade and industrial majors should be changed for Southern University to require a prerequisite of three years of trade experience.
  5. The college faculty members of the trade and industrial education division keep in touch with the graduates of this division at least once each year and get their criticisms and suggestions for improving the teacher-training program.
  6. Changes should be made in the Southern University Mechanic Arts Building, making one carpentry shop of 3,500 square feet out of the present small carpentry shop and the present automobile shop.
  7. A new building should be provided to accommodate an automobile shop with an area of 4,500 square feet; a masonry shop, with an area of 3,500 square feet; a tailor shop with an area of 1,500 square feet; and an electric shop with an area of 3,500 square feet. Such a building should have a floor area of 7,360 square feet, or 46 feet wide by 160 feet long, the automobile shop and masonry shop to be on the ground floor.
  8. There should be an addition of two machines

for the Southern University carpentry shop, one jointer and one planer.

9. Equipment should be provided for one proposed masonry shop.
10. Equipment should be provided for one proposed electric shop.
11. One proof press should be added to the print shop equipment.
12. Two additional sewing machines should be added for the tailor shop.
13. The present Southern University pattern should be continued except as these recommendations affect it.

Since the proposed patterns as set forth in the recommendations above in academic, shop, and professional courses for Southern University compare favorably with the patterns of other Negro teacher-training colleges, meet the needs of graduates, and provide opportunities for prospective graduates and teachers in service to improve their professional standing, it is recommended that the three proposed patterns for trade and industrial education majors be considered for adoption by the Southern University administration and faculty. Since there is need for additional trades to be taught at Southern University, a new shop building, added equipment, and two additional shop teachers, it is further recommended that the

administration of Southern University consider these provisions and make plans for meeting them.

## Chapter VI

### SUMMARY

#### The Problem

With rapid changes in industry and new demands on the industrial education curricula, it is important that preparation be made to meet them in vocational teacher-training colleges. The central problem, therefore, resolves itself into, "What Types of Teacher-Training Programs in Trade and Industrial Education are Necessary for Negroes in the Southern Region?"

#### The Method

Questionnaires were devised and sent to Negro teacher-trainers in the eight states of the Southern Region, and to trade teachers in the Negro colleges. State directors of trade and industrial education were contacted through mail for data on state plans. Information was secured from catalogues of Negro teacher-training colleges, and through personal contact with teacher-trainers in four states.

The study of this problem received its direction from an analysis of the problem which revealed the following subordinate questions:

- A. What is being taught in trade and industrial

- divisions of the state departments of vocational education or in schools designated for that purpose?
- B. What type and size of shops are used for training teachers?
  - C. What equipment is available in teacher-training shops?
  - D. What are the state requirements for trade and industrial teachers?
  - E. What positions do the graduates obtain?
  - F. What combination of duties and responsibilities do teachers report?
  - G. How have teacher-training curricula been modified in the light of reports of teachers?
  - H. What are the state requirements for teacher-training?
  - I. What should comprise a teacher-training program for Negro trade and industrial teachers?

#### Findings and Interpretations

The findings and interpretations are presented in three parts: the curriculum, the duties and responsibilities of trade and industrial teachers, and the shops and equipment available for training teachers. The total curriculum pattern was determined by securing answers to questions A, "What is being taught in trade and industrial divisions of the state departments of vocational education or in schools designated for that

purpose?" and H, "What are the state requirements for training teachers?"

The total curriculum is divided into an academic pattern, a shop pattern, and a professional pattern.

The state requirements vary with different states but in all cases are set to meet the minimum federal requirements. The requirements of the eight states are in general agreement with minimum standards of 35.2 semester hours of academic training, including English, 12; mathematics, 6; and sciences, 17; the remainder being elective subjects. High school graduation is required in Louisiana. Forty-five semester hours of shop training are required in one craft, and 23 semester hours of professional training must be chosen from: trade analysis, curriculum construction, methods, practice teaching, operation analysis, principles, management and safety, guidance, industrial sociology, and psychology. Tables 18, 19, and 20 show the average pattern for the eight colleges and a comparison with the pattern of Southern University.

The academic and professional patterns at Southern University are adequate in comparison with averages from other colleges, requirements of the other states, and requirements of Louisiana in particular. The shop pattern at Southern University provides for thorough preparation in the major field with 45

Table 18.--PATTERNS OF ACADEMIC SUBJECTS FOR TRADE AND INDUSTRIAL EDUCATION MAJORS, SHOWN IN SEMESTER HOURS

Subject	Average All Colleges	Southern University	Differences
English	11.25	12	+0.75
Mathematics	7.50	6	-1.50
Sciences	16.42	17	+0.58
Total required subjects	35.17	35	-0.17
Total electives	35.6	31	-4.6
Total required and elective subjects	70.67	66	-4.67

Table 19.--PATTERN OF SHOP SUBJECTS FOR TRADE AND INDUSTRIAL EDUCATION MAJORS, SHOWN IN SEMESTER HOURS

Subject	Average All Colleges	Southern University	Differences
Automobile mechanics	36.8	45	+8.2
Woodwork and carpentry	36.8	45	+8.2
Tailoring	36.8	45	+8.2
Printing	36.8	45	+8.2
Brick masonry	36.8	0	0.0
Painting	36.8	0	0.0
Electricity	36.8	0	0.0
Total	36.8	45	+8.2

Table 20.--PATTERN OF PROFESSIONAL SUBJECTS FOR TRADE AND INDUSTRIAL EDUCATION MAJORS, SHOWN IN SEMESTER HOURS

Subject	Average All Colleges	Southern University	Differences
Shop organization and management	2.30	2	-0.30
Methods in industrial education	3.60	3	-0.60
Organization of content	2.00	0	-2.00
Observation and practice teaching	3.50	6	+2.50
Principles of vocational education	3.00	0	-3.00
Vocational guidance	2.20	3	+0.80
History of industrial education	2.80	3	+0.20
Trade and job analysis	2.80	3	+0.20
Administration of vocational education	3.00	0	-3.00
Educational psychology	2.80	3	+0.20
Objectives and problems of vocational education	2.00	0	-2.00
Vocational education seminar	3.00	0	-3.00
Tests and measurements in industrial education	2.00	0	-2.00
Program of shop planning	2.00	0	-2.00
Total	37.00	23	-14.00

semester hours requirement which is eight and two-tenths semester hours above the average. However, Southern University does not give training in masonry and electricity, whereas five of the eight colleges give training in the masonry and electrical trades. The addition of training in these trades seems warranted.

The duties and responsibilities of trade and industrial teachers, as shown in Tables 4-6, were determined from answers to questions E, "What positions do graduates obtain?", D, "What are the state requirements for trade and industrial teachers?", F, "What combination of duties and responsibilities do teachers report?", and G, "How have teacher-training curricula been modified in the light of reports by teachers?"

Table 4 shows that in the past four years 27 persons graduated from the trade and industrial education division of Southern University. Nine of these persons became teachers of trade subjects, one became a teacher of industrial arts, seven entered trade work, and ten joined the armed forces. The first class to graduate from this division was in 1941. This placement picture is rather unusual due to war conditions.

Table 5 reveals that state requirements for trade experience vary from two to seven years, and that apprenticeship requirements vary from zero to four years. Louisiana requires six years of trade experience for certification.

Trade and industrial majors receive credit for three years trade experience upon graduation, which leaves them three years short of meeting the six year requirement for certification. At present, many of the graduates must enter the trade upon graduation to get three additional years of trade experience. A provision should be made whereby graduates will have six years trade experience when they are graduated so they may begin teaching immediately.

Table 6 shows that regular teaching duties are performed by trade and industrial teachers as follows: 31 teach a trade, 31 teach related subjects, 12 do maintenance work, and six take in community work. Twelve of the 31 teachers conduct one extra-curricular activity in addition to trade teaching as follows: six coach athletics, three sponsor Boy Scout troops, two sponsor clubs, and one instructs the band.

Assistance from other college departments and specialists is needed to help trade teachers develop acceptable competence for extra-curricular assignments.

Question G, "How have teacher-training curriculum been modified in the light of reports of teachers?" The oldest graduates of the trade and industrial education division of Southern University have been out only four years. During that period, the war caused many unusual situations, and practically no criticisms or suggestions were obtained from graduates

in the field. This represents a shortcoming which should be overcome so curricula can be modified and kept up to date.

Information on shops and equipment available for training teachers was secured from answers to questions B, "What type and size of shops are used for training teachers?" and C, "What equipment is available in teacher-training shops?" Tables 7 and 8, pages and , show that of the eight colleges, seven had brick buildings, one had a concrete building, and two had a frame building. The average sizes of these shops were 780 to 2,160 square feet. Adequate sizes for these shops according to Struck (8:323) were 1,000 to 4,500 square feet. In general the shops are too small.

Tables 9-15 present data on shop equipment that is provided by the eight colleges and show the comparison between the averages and the equipment provided by Southern University. It was found that the woodshop lacks a planer and jointer, the masonry and electrical shops need complete equipment, the automobile shop is well equipped, the print shop lacks a proof press, and the tailor shop lacks two sewing machines.

The summary of the recommendations for continuing or changing Southern University's trade and industrial curriculum and shop facilities follows:

1. The present pattern of academic requirements

- should be continued without change.
2. Instruction in the masonry trade should be added to the shop pattern, and a masonry teacher should be employed.
  3. Instruction in the electrical trade should be added to the shop pattern, and an electric shop teacher should be employed.
  4. A prerequisite of three years of trade experience should be established for trade and industrial majors.
  5. Assistance should be sought from other college departments and specialists in preparing trade and industrial majors to coach, lead Boy Scout troops, sponsor clubs, and give band instruction.
  6. Criticisms and suggestions for improving the teacher-training program should be secured from graduates once each year.
  7. Changes should be made in the Southern University Mechanic Arts Building, making one carpenter shop of 3,500 square feet out of the present small carpenter shop and the present automobile shop.
  8. A new building should be provided to accommodate an automobile shop with an area of 4,500 square feet; a masonry shop with an area of 3,500 square feet; a tailor shop with an area

of 1,500 square feet; and an electric shop with an area of 3,500 square feet. Such a building should have two stories, be 46 feet wide by 160 feet long, and have a ground floor area of 7,360 square feet. The automobile shop and masonry shop should be on the ground floor.

9. One jointer and one planer should be added to the wood shop equipment.
10. Equipment should be provided for one proposed masonry shop.
11. Equipment should be provided for one proposed electric shop.
12. One proof press should be added to the print shop equipment.
13. Two additional sewing machines should be added to the tailor shop equipment.

Since the proposed patterns for curricula and proposed changes and additions to shops and equipment for Southern University would result in a training program that compares favorably with the patterns of other Negro teacher-training colleges, would meet the needs of graduates, and would provide opportunities for teachers in service to improve their professional standing, it is urged that the recommendations be considered for adoption by the Southern University administration and faculty.

APPENDIX  
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Names and Addresses of Negro Trade and Industrial  
Teacher-Trainers and Industrial Education Teachers  
Who Gave Information for Data in This Thesis

1. Allen, W. S., P. O. Box 266, Tuskegee Institute,  
Alabama (Teacher-Trainer)
2. Cooper, Dr. Charles L., Agricultural and Technical  
College, Greensboro, North Carolina (Industrial  
education)
3. Crawford, H. W., State Agricultural and Mechanical  
College, Orangeburg, South Carolina (Teacher-  
Trainer)
4. Lee, William E., Agricultural and Mechanical  
College, Pine Bluff, Arkansas (Industrial education)
5. Smith, C. S., Agricultural and Technical College,  
Greensboro, North Carolina (Teacher-Trainer)
6. Terrell, W. P., Prairie View Agricultural and  
Mechanical College, Prairie View, Texas (Teacher-  
Trainer)
7. Nelson, William B., Alcorn Agricultural and  
Mechanical College, Alcorn, Mississippi (Industrial  
education)
8. Thomas, M. S., Florida Agricultural and Mechanical  
College, Tallahassee, Florida (Teacher-Trainer)
9. Woodard, F. O., Alcorn Agricultural and Mechanical  
College, Alcorn, Mississippi (Teacher-Trainer)

Names and Addresses of Trade Teachers  
in Negro Teacher-Training Colleges

Alabama. Normal and Industrial College, Normal

Name	Trade
Coleman, Judson P.	Printing Instructor
Roy, James L.	Shoe Making
Wesley, H. G.	Tailoring

Arkansas. Agricultural and Mechanical College, Pine Bluff

Magique, A. A.	Masonry
Monroe, Lucius G. 404 South Cyprus Street	Drawing and Electricity

Florida. Agricultural and Mechanical College,  
Tallahassee

Beasley, S. L.	Auto Mechanic
Briggs, Theodore	Woodwork
Brooks, W. D.	Electrical Engineer
Hafling, Charles C.	Tailor
Henry, Z. R.	Plumbing and Heating
Jones, Edward	Painting
Stickney, W. H.	Printer
Webber, R. E.	Masonry

Louisiana. Southern University and Agricultural and  
Mechanical College, Scotlandville

Boston, P. B.	Auto Mechanics Instructor
---------------	---------------------------

Clark, Charles A.	Tailoring Instructor
Cooke, V. A.	Carpentry Instructor
Hamilton, E. James	Printing
Daniels, W. T.	Mechanical Drawing
Robinson, T. H.	Woodworking

Mississippi, Alcorn Agricultural and Mechanical College,  
Alcorn

Bacon, George, Jr.	Mechanical Drawing and Building Construction
Campbell, Thomas W.	Plumbing and Pipe Fitting
Holtzman, T. H.	Electricity
McElvy, Claud O.	Auto Mechanics

North Carolina, Agricultural and Technical College,  
Greensboro

Bowling, A. C.	Electrical Engineering
De Huguley, Clyde	
Mitchell, W. L. 422 North Dudley Street	Carpentry
Poole, R. S.	Tailoring
Sysnette, O.	Masonry

South Carolina, State Agricultural and Mechanical  
College, Orangeburg

Clagett, C. R.	Auto Mechanics
Small, Thomas D.	Printing
Stewart, Elliott L.	Building Construction
Williams, Willie W.	Machine Shop
Zimmerman, O. M.	Woodworking

Texas, Prairie View Agricultural and Mechanical College,  
Prairie View

Brittain, T. H.	Woodworking
Carter, H. W.	Mechanical Drawing
Farrell, H. T.	Laundrying
Fuller, H. E.	Painting
Martin, O. W.	Electricity
Rayland	Tailoring
Thomas, O. J.	Machinist and Mechanic
Wilson, J. M.	Tailoring
Johnson, R. F.	Shoemaking
Instructor,	Broom and Mattress Making
Instructor,	Printing
Instructor,	Metal Work and Plumbing

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

December 15, 1941

Dean W. T. Gibbs  
A & T College  
Greensboro, North Carolina

Dear Dean Gibbs:

I am sending you under separate cover survey forms that have to do with a study of Vocational Industrial Teacher-Training. Form I is for your teacher trainer or major professor of trade and industrial education, and form II is for the teachers of trade and technical subjects. Please have each teacher fill out one of these as it relates to his subject.

You will do us a great favor if you will have these forms filled out by the proper persons and returned to me as early as possible.

Thank you very much for this favor.

Very truly yours,

J. W. McLeod, Teacher Trainer  
Trade and Industrial Education

JWM-jwk

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

December 15, 1941

Director C. L. Wilson  
Prairie View State  
Normal and Industrial College  
Prairie View, Texas

My dear Mr. Wilson:

I am sending you under separate cover survey forms that have to do with a study of Vocational Industrial Teacher-Training. Form I is for your teacher trainer or major professor of trade and industrial education, and form II is for the teachers of trade and technical subjects. Please have each teacher fill out one of these as it relates to his subject.

You will do us a great favor if you will have these forms filled out by the proper persons and returned to me as early as possible.

Thank you very much for this favor.

Very truly yours,

J. W. McLeod, Teacher Trainer  
Trade and Industrial Education

JWM-jwk

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

December 15, 1941

Dean W. B. Nelson  
Alcorn A & M College  
Alcorn, Mississippi

Dear Dean Nelson:

I am sending you under separate cover survey forms that have to do with a study of Vocational Industrial Teacher-Training. Form I is for your teacher trainer or major professor of trade and industrial education, and form II is for the teachers of trade and technical subjects. Please have each teacher fill out one of these as it relates to his subject.

You will do us a great favor if you will have these forms filled out by the proper persons and returned to me as early as possible.

Thank you very much for this favor.

Very truly yours,

J. W. McLeod, Teacher Trainer  
Trade and Industrial Education

JWM-jwk

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

December 16, 1941

Dean W. K. Payne  
Georgia State College  
Industrial, Georgia

Dear Dean Payne:

I am sending you under separate cover survey forms that have to do with a study of Vocational Industrial Teacher-Training. Form I is for your teacher trainer or major professor of trade and industrial education, and form II is for the teachers of trade and technical subjects. Please have each teacher fill out one of these as it relates to his subject.

You will do us a great favor if you will have these forms filled out by the proper persons and returned to me as early as possible.

Thank you very much for this favor.

Very truly yours,

J. W. McLeod, Teacher Trainer  
Trade and Industrial Education

JWM-jwk

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

December 17, 1941

State Superintendent of Education  
State Department of Education  
Little Rock, Arkansas

Dear Sir:

Please send a copy of your state plan for  
Vocational Education, for which I thank you.

Very truly yours,

J. W. McLeod, Teacher Trainer  
Trade and Industrial Education

JWM-jwk

Copy of letter sent to nine state superintendents.

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

May 6, 1942

Dean W. B. Nelson  
Alcorn A. & M. College  
Alcorn, Mississippi

Dear Dean Nelson:

Last December I sent some survey forms to you to be filled out by your Mechanic Arts teachers and Teacher-Trainer. I have not heard from them.

If I am successful in this survey, it will give me material for a master thesis as well as for making a teacher-training program.

If you have not received the forms or need more, I shall be pleased to send them.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

March 31, 1943

Mr. F. O. Woodard, Teacher-Trainer  
Trade and Industrial Education  
Alcorn A. & M. College  
Alcorn, Mississippi

My dear Mr. Woodard:

It was indeed a pleasure to get the Survey forms all filled in. I received them Monday and have checked them already. You have a good program. The only improvement I see is to have more of it. That is my problem here, I just do not have enough teachers to supply the needs of the State.

I really thank you for this service, and hope you will call on me at any time for any service that I can render.

Sincerely yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

JWM;slf

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

January 23, 1943

Mr. Fred O. Woodard  
Alcorn A. & M. College  
Alcorn, Mississippi

My dear Mr. Woodard:

This is just a reminder of the forms you are having filled for me. I know you and your teachers are busy. I judge from our own situation. The War training program, together with a shortage of teachers, has us going overtime, so you know I cannot help but appreciate the effort and time you are giving me.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

JWM:slf

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

February 14, 1942

Dean R. A. Carter  
State A & M Institute  
Normal, Alabama

Dear Dean Carter:

Please accept my thanks for the returned blanks. Also for the suggestion that I send blanks to Tuskegee.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

JWM-jk

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

February 21, 1942

Director C. L. Wilson  
Division of Mechanic Arts  
Prairie View State College  
Prairie View, Texas

Dear Mr. Wilson:

I have just received the survey forms you returned to me all filled in, and I wish to thank you and your staff so very much for helping me.

I am sorry I did not send forms enough to accommodate all of your instructors. It did not occur to me that your college would have a larger program than any other college in the region. Yet I knew it. It was so very kind of you to make up the additional forms and have them filled in.

Please express my thanks to all those instructors who filled out the forms.

From the looks of these forms you have a big and good program in Mechanic Arts.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

JWM-jk

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

May 5, 1942

Mr. H. W. Crawford  
Teacher Trainer  
Trade and Industrial Education  
State College  
Orangeburg, South Carolina

My dear Mr. Crawford:

The enclosed report is a copy of my general report to the State office. It does not begin to tell the results of my visit there.

I will never be able to tell you how much my visit to your college and to your various schools together with the Conferences we had together has meant to me. I am trying to say thank you, but words will not express. I only hope I will be able to return the same in some way to you. I shall be looking forward to a visit from you.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

February 14, 1942

Mr. H. W. Crawford  
Itinerant Teacher-Trainer  
Trade and Industrial Education  
State A & M College  
Orangeburg, South Carolina

Dear Mr. Crawford:

I thank you so much for filling and returning to me the questionnaire. If ever I can get them in from other Teacher-Trainers and shop teachers, I will complete the study.

The trade teachers in your college have not returned their questionnaires yet. I will be pleased if you call their attention to it.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

JWM-jk

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SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

May 6, 1942

Mr. A. A. Hamm  
Southern University  
Scotlandville, Louisiana

My dear Co-worker:

Sometime ago I gave you some survey forms relating to Industrial teacher-training. I will highly appreciate getting these forms at your earliest convenience. As this gives me material for a thesis as well as for a teacher-training program.

Thank you for your cooperation, I am,

Sincerely yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

August 25, 1943

Mr. H. W. Crawford, Teacher Trainer  
Trade and Industrial Education  
Orangeburg, South Carolina

My dear Mr. Crawford:

I have just returned from summer school at Colorado State College of Agriculture and Mechanic Arts, Fort Collins, Colorado. This is my first attendance since 1941. I am still seeking information for my thesis. I have all information required except the provisions of the State of three states of which your state is one. I wrote to the State Department of Education of South Carolina sometime ago for a copy of their State Plan for Vocational Education. They wrote that there were no copies available for distribution.

I have had some success in getting information from teacher trainers who either loaned me their copy or gave me the information required.

The only information I need is that part that relates to State requirements for trade and industrial teachers and teacher-training. I find very little differences in the State plans but would like to quote them on these points:

1. How much trade experience is required?
2. How much general education is required?
3. What trade and industrial education subjects?
4. What teaching experience required, if any?
5. What supervisory experience required?

Many thanks for any assistance you will give in this direction.

Very truly yours

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

August 25, 1943

Mr. C. S. Smith, Teacher Trainer  
Trade and Industrial Education  
Agricultural and Technical College  
Greensboro, North Carolina

My dear Mr. Smith:

I have just returned from summer school at Colorado State College. This was my first attendance since 1941. I am still seeking information for my thesis. I have all information required except the provisions of the State plans of three states of which your state is one. I wrote to the State Department of Education of North Carolina sometime ago for a copy of their State plan for Vocational education. They wrote that there were no copies available for distribution.

I have had some success in getting information from teacher-trainers who either loaned me their copy or gave me the information required.

The only information I need is that part that relates to State requirements for trade and industrial teachers and teacher-training. I find very little differences in the State plans but would like to quote them on these points:

1. How much trade experience is required?
2. How much general education is required?
3. What trade and industrial subjects?
4. What teaching experience required, if any?
5. What supervisory experience required?

Many thanks for any assistance you will give in this direction.

Very truly yours

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

State of Arkansas  
DEPARTMENT OF EDUCATION  
Division of Vocational Education  
Little Rock

December 19, 1941

Mr. J. W. McLeod  
Teacher Trainer  
Trade & Industrial Education  
Southern University  
Scotlandville, Louisiana

Dear Mr. McLeod:

Replying to your letter of December 17, I regret to inform you that we do not have a copy of our State Plan to send you. We have only an office copy.

Sincerely yours

Fred A. Smith  
State Director  
Vocational Education

FAS:GD

STATE DEPARTMENT OF EDUCATION  
Division of Vocational Education

Atlanta, Georgia  
December 19, 1941

Mr. J. W. McLeod  
Southern University  
Scotlandville, La.

Dear Mr. McLeod:

I regret very much that we do not have available for distribution copies of our State Plan for Vocational Education.

Very sincerely yours,

(s) M. D. Mobley

M. D. Mobley  
State Director

mdm/hc

State of North Carolina  
SUPERINTENDENT OF PUBLIC INSTRUCTION  
Raleigh

Dec. 20, 1941

Mr. J. W. McLeod  
Teacher Trainer  
Southern University  
Scotlandville, La.

My dear Mr. McLeod:

I regret that I cannot comply with your request of Dec. 18th, and send you a copy of our State Plans for Vocational Education, but we have never had these plans printed, but only have one typewritten copy for office use.

Yours very truly,

(s) T. E. Browne

Director Vocational Education.

## STATE BOARD FOR VOCATIONAL EDUCATION

L. A. Woods  
State Superintendent and Executive Officer  
Austin, Texas

December 19, 1941

Mr. J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education  
Southern University  
Scotlandville, Louisiana

Dear Mr. McLeod

Your request for a copy of our State Plan has been referred to this office, but unfortunately, I must report that our supply is at present exhausted.

If new copies are printed, I will be glad to send you one at that time.

Yours very truly

(s) W. R. Cate

W. R. Cate, State Supervisor  
Trade and Industrial Education

WRC:mm

THE FLORIDA AGRICULTURAL & MECHANICAL COLLEGE

J. R. E. Lee, President

Tallahassee, Florida

December 20, 1941

Mr. J. W. McLeod  
Teacher Trainer  
Southern University  
Scotlandville, La.

Dear Sir:

This comes to acknowledge receipt of the material relative to your study of Vocational-Industrial Teacher Training.

Since this information would have to come through the Mechanic Arts Division, I am placing this material in the hands of Dean W. T. Reed, who, I am sure, will do whatever he can to assist you in this work.

Yours very truly,

(s) E. P. Southall

E. P. Southall  
Dean

EPS/EM

## THE FLORIDA AGRICULTURAL &amp; MECHANICAL COLLEGE

J. R. E. Lee, President

Tallahassee, Florida

December 22, 1941

Mr. J W McLeod, Teacher Trainer  
Trade and Industrial Education  
Southern University  
Scotlandville, La.

My dear Mr. McLeod:

Just at the time your correspondence to Dean Southall was referred to me our teachers were leaving for the Christmas holidays. Consequently it will be the first week in January before we can give attention to your questionnaire. This we shall do with pleasure.

I note that you did not enclose enough of the form II copies for all of our trades. We shall appreciate it if you will forward to this office two additional copies of this form and if you can spare it I shall appreciate an extra for our files.

Yours very truly,

(s) W. T. Reed

W T Reed

r/

State of South Carolina

DEPARTMENT OF EDUCATION

State A. and M. College,  
Orangeburg, S. Carolina,  
March 9, 1942

Mr. J. W. McLeod, Teacher Trainer,  
Trade and Industrial Education,  
Southern University,  
Scotlandville, La.

Dear Mr. McLeod:

. Sometime ago you wrote me requesting that I contact other teachers here in the college regarding your questionnaires which they did not return. I have talked with all of the men in the mechanical industries division and have found no one who acknowledges receipt of your questionnaire.

As I recall the questions, it is my belief that some of the teachers in the field might better answer the questions than some here at the college. I shall be pleased to furnish you with any information, such as names and addresses, etc., that you may need.

With best wishes for your success in the study which you are undertaking, I am

Sincerely yours,

(s) H. W. Crawford

H. W. Crawford,  
Itinerant Teacher,  
Trade and Industrial  
Education.

hwc/ej

## STATE AGRICULTURAL AND MECHANICAL INSTITUTE

Normal, Alabama

January

1 3

1 9 4 1

Mr. J. W. McLeod, Teacher Trainer  
Trade and Industrial Education  
Southern University  
Scotlandville, Louisiana

Dear Mr. McLeod:

Please find attached the blanks which you sent to be distributed to the persons in our trades department. You probably know that we offer only general courses in the vocational field. The Teacher-Training work in the vocational fields is done at Tuskegee Institute. I am suggesting you send these blanks to Tuskegee.

Yours very truly,

(s) R. A. Carter

R. A. Carter, Dean

R            t  
A            m  
C:h

## DEPARTMENT OF VOCATIONAL EDUCATION

Tuskegee Institute, Alabama

April  
13  
1942

Mr. J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education  
Southern University  
Scotlandville, La.

Dear Mr. McLeod:

Please excuse delay in returning to you the form sent to me as of April 7. Inasmuch as I have the entire State program set up on an Itinerant basis, my training schedule is completely advertised.

However, I have attempted to give you the high points and the minimum requirements. After your study has been completed and summarized, if it is not too much trouble, I would appreciate a copy.

Wishing you continued success in your work.  
I am

Very truly yours

(s) W. S. Allen  
a.

W. S. Allen,  
Itinerant Teacher-Trainer  
Trade and Industrial Education

WSA: ca

Incl.

GEORGIA STATE COLLEGE  
Industrial College, Georgia

May 14, 1942

Mr. J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education  
Southern University  
Scotlandville, La.

Dear Mr. McLeod:

I regret very much that the survey forms have not been returned to you. These blanks were sent to the President's Office for approval soon after they reached me. It seems that they can not be located at this time. If you will be kind enough to send me another set, I shall be glad to have them filled and returned to you immediately.

Very truly yours,

(s) W. K. Payne

W. K. Payne, Dean

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

May 6, 1942

Dean W. K. Payne  
Georgia State College  
Industrial, Georgia

Dear Dean Payne:

Last December I sent some survey forms for teachers of your Mechanic Arts Department to fill out. I have not heard from them. I am very anxious to make this study as it will give me material for a thesis and also help me in my program of teacher training.

Thank you for your consideration in getting these forms filled and returned. If you need more forms, kindly let me know.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

May 18, 1942

Dean W. K. Payne  
Georgia State College  
Industrial College, Ga.

Dear Dean Payne:

I was so glad to get your letter and know that I still have an opportunity to get my survey forms filled out. I am sending under separate cover Form I for your teacher-trainer of Trade and Industrial Education or teacher of industrial education subjects and eight Form II for your shop teachers.

I am enclosing postage for the return of these forms.

Thank you so much for helping me out with this survey. I am only hoping it will prove helpful to all teacher-trainers in my field.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

December 15, 1941

Dean E. H. Gore, Jr.  
Tennessee A & I College  
Nashville, Tennessee

Dear Dean Gore:

I am sending you under separate cover survey forms that have to do with a study of Vocational Industrial Teacher-Training. Form I is for your teacher trainer or major professor of trade and industrial education, and form II is for the teachers of trade and technical subjects. Please have each teacher fill out one of these as it relates to his subject.

You will do us a great favor if you will have these forms filled out by the proper persons and returned to me as early as possible.

Thank you very much for this favor.

Very truly yours,

J. W. McLeod, Teacher Trainer  
Trade and Industrial Education

JWM-jwk

TENNESSEE AGRICULTURAL & INDUSTRIAL STATE COLLEGE

Nashville, Tennessee

December 22, 1941

Mr. J W McLeod, Teacher Trainer  
Trade and Industrial Education  
Southern University  
Scotlandville  
Louisiana

Dear Mr McLeod:

Allow me to acknowledge receipt of forms for the study of Vocational Industrial Teacher-Training.

I have turned them over to Mr Wade Wilson, who has charge of that work here and have suggested that he cooperate with you.

Yours very truly,

(s) George Jr. Gore

George W Gore, Jr

GWGjr

h  
d  
p

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

May 6, 1942

Mr. Wade Wilson  
Tennessee Agricultural & Ind. College  
Nashville, Tennessee

My dear Mr. Wilson:

On December 16, 1941, I sent some questionnaires to Dean Gore on Vocational Industrial Teacher-Training for your department. Dean Gore wrote that he had turned them over to you. I, perhaps, need to apologize to you for not sending them directly to you. But Dean Gore was the only one there that I knew.

I am very anxious to get the forms filled out and returned as this means two things to me. First, I am writing a thesis on Teacher-Training in the South, and secondly, it will help me in my work.

I know that surveys have gotten so common that we all get tired of them, but it is my plan to send you a copy of the results of the survey.

If you need more forms, I shall be glad to send them.

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

State of South Carolina  
DEPARTMENT OF EDUCATION

State A. and M. College,  
Orangeburg, S. Carolina,  
21 January 1942.

Mr. J. W. McLeod,  
Teacher Trainer  
Trade and Industrial Education,  
Southern University,  
Scotlandville, Louisiana.

Dear Mr. McLeod:

Your questionnaire was referred to me  
by Dean Green.

I regret the delay in returning it to  
you but it took sometime for it to reach me.

I should be very pleased to receive a  
copy of your findings.

With best wishes, I am

Sincerely yours,

(s) H. W. Crawford

H. W. Crawford,  
Itinerant Teacher Trainer,  
Trade and Industrial Education.

hwc/ej

Enclosure

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

January 23, 1943

Mr. S. C. Smith, Teacher-Trainer  
Trade and Industrial Education  
A. & T. College  
Greensboro, North Carolina

My dear Mr. Smith:

I have intended writing to you ever since we were together last April in Orangeburg. It was a pleasure to have met you. The conferences together meant a great deal to me.

I did not hear anything from the forms. I imagine you were so busy that you overlooked them. If it is still possible to get them, I will highly appreciate it. I am planning on returning to Summer school at Colorado State this coming summer. Please send me a copy of your College catalog.

Wishing you a successful year, I am

Very truly yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

JWM:slf

THE AGRICULTURAL AND TECHNICAL COLLEGE  
OF NORTH CAROLINA  
Greensboro, N. C.

January 29, 1943

Mr. J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education  
Southern University  
Scotlandville, Louisiana

Dear Mr. McLeod:

This is to acknowledge your letter of January 23. I had intended sending those blanks to you some time ago, but only a few of the teachers had returned them and I waited for the others until it was too late, thinking you would use the information from them last summer in Summer School. Until yet, all the teachers have not returned their blanks, and I am putting forth another effort to get them in and will send them on to you in the next few days.

It was very pleasing to hear from you and I hope you are having a very successful year in your work. We have made some progress, I think, in spite of the many barriers we had to overcome. A few of our men were drafted and some went into Defense Industries. We have started a few defense classes within the past few months, and we are hoping to get others going very soon. I will be glad to hear from you at any time.

Let me know how your work is coming on.

Under separate cover I am sending you a bulletin of our school and would like to request the same favor of you.

Very sincerely yours,

(s) S. C. Smith

S. C. Smith  
Itinerant Teacher Trade and Ind. Ed.

SCS:etr

SOUTHERN UNIVERSITY  
Scotlandville, Louisiana

December 15, 1941

To Teacher Trainers, Trade and Industrial Education.

Dear Teacher-Trainers:

Your cooperation in making a survey of the Southern Region in Trade and Industrial teacher-training is very much desired. The information asked for on the enclosed forms will make it possible to carry out a study, the objective of which is to determine the type of trade and industrial teacher-training program best suited for the Southern Region.

You will do us a great favor and we believe will make a contribution to the cause of Negro trade and industrial education if you will carefully answer the questions on the enclosed form. Your response to this inquiry will provide additional facts upon which to base a solution. It will at least contribute to the work in this state.

Thank you for whatever information you will give.

Sincerely yours,

J. W. McLeod, Teacher-Trainer  
Trade and Industrial Education

JWM/sec

FORM I. FOR TEACHER TRAINERS  
OR TEACHERS OF TRADE  
AND  
INDUSTRIAL EDUCATION SUBJECTS

REGIONAL SURVEY  
OF  
TRADE AND INDUSTRIAL TEACHER-TRAINING

Directions: On the following pages two types of questions are found. One type is answered by inserting the information requested in the space provided at the right of the question. The other type is answered by encircling the number to the left of the item which best represents your response to the questions asked.

Please use a soft pencil and draw the circle neatly around the number representing your response. Answer every question which pertains to your type of service, training and experience. Your prompt co-operation will be appreciated.

Name of Teacher-Trainer \_\_\_\_\_

Address \_\_\_\_\_ Date \_\_\_\_\_

Teacher Training College \_\_\_\_\_

Location \_\_\_\_\_

Subjects taught \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Do you have itinerant teacher-training? \_\_\_\_\_

Full time or part time? \_\_\_\_\_

How much time is given to itinerant teaching\_\_\_\_\_

Nature of the Program\_\_\_\_\_

Type of classes

1. Trade technical subjects
2. Related subjects
3. Industrial education subjects
4. Itinerant teaching
5. \_\_\_\_\_
6. \_\_\_\_\_

How many trade and industrial departments do you have  
in your state?\_\_\_\_\_

How many teachers are employed in these departments?  
\_\_\_\_\_

What positions do your graduates get?

1. Follow the trade
2. Supervise trade work
3. Enter business for themselves
4. Trade and industrial teachers
5. Industrial arts teachers
6. N. Y. A. Instructors
7. N. Y. A. Supervisors
8. Teacher, academic subjects
9. \_\_\_\_\_
10. \_\_\_\_\_

What combination of duties and responsibilities do  
your teachers report?

1. Repair and maintenance of school plant
2. Take in work from off the campus

3. Individual project work
4. Extra curricula activities
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
5. Related teacher
6. Full-time shop teacher
7. Part-time shop teacher
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

How have your curricula been modified in the light of their reports?

1. Dropped subjects \_\_\_\_\_
2. Added subjects \_\_\_\_\_
3. Improved trade training \_\_\_\_\_
4. Partly changed \_\_\_\_\_
5. Completely changed \_\_\_\_\_
6. No change made \_\_\_\_\_
7. Added equipment \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_

Are shops satisfactorily equipped? \_\_\_\_\_

\_\_\_\_\_

Laboratory equipment \_\_\_\_\_

Hand tools \_\_\_\_\_

Machines \_\_\_\_\_

What are the state requirements for trade and industrial teachers?

1. Apprenticeship training\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. General education\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Experience in trade practice\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Vocational education subjects\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Teaching experience\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

FORM II  
 REGIONAL SURVEY  
 OF  
 TRADE AND INDUSTRIAL TEACHER-TRAINING

Directions: On the following pages two types of questions are found. One type is answered by inserting the information requested in the space provided at the right of the question. The other type is answered by encircling the number to the left of the item which best represents your response to the question asked.

Please use a soft pencil and draw the circle neatly around the number representing your response. Answer every question which pertains to your type of service, training and experience. Your prompt co-operation will be appreciated.

---

NAME	ADDRESS
Name may be omitted if considered desirable.	
POSITION	Date

Highest level of your training

0. Less than high school graduate
1. High school graduate
2. Less than one year of college work
3. One year of college or normal school
4. Two years of college or normal school
5. Three years of college or normal school
6. College graduate

7. Degree of Bachelor of Science
8. Degree of Bachelor of Arts
9. One year or more of graduate work
10. One year trade training
11. Two years trade training
12. Three years trade training
13. Four years trade training
14. One year apprenticeship training
15. Two years apprenticeship training
16. Three years apprenticeship training

## II. TRADE EXPERIENCE

1. One year trade experience
2. Two years trade experience
3. Three years trade experience
4. Four years trade experience
5. Five years trade experience
6. Six to ten years trade experience
7. More than ten years trade experience

## III. TYPE OF SHOP

- |                           |                    |
|---------------------------|--------------------|
| 1. Brick Building         | 8. Two room shop   |
| 2. Frame building         | 9. Three room shop |
| 3. Concrete building      | 10. Four room shop |
| 4. Basement shop          |                    |
| 5. Satisfactorily lighted |                    |
| 6. Satisfactorily heated  |                    |
| 7. One room shop          |                    |

## IV. Size of shop in square feet, floor area

- |                  |                 |
|------------------|-----------------|
| 1. Less than 600 | 5. 1201-1400    |
| 2. 601-800       | 6. 1401-1600    |
| 3. 801-1000      | 7. 1601-2000    |
| 4. 1001-1200     | 8. 2000 or more |

## V. Vocational education subjects, one of more course completed

1. Vocational guidance
2. History of Vocational Education
3. Trade and job analysis
4. Shop organization and management
5. Writing instruction sheets
6. Methods of teaching industrial subjects
7. Course construction
8. Vocational psychology
9. Observation and practice teaching
10. Philosophy of vocational education
11. Principles of vocational education

(Fill in other courses)

- 12.
- 13.
- 14.
- 15.

## VI. What type of classes do you teach?

1. Evening shop classes
2. Part-time shop classes
3. General continuation, vocational

4. All-day shop
5. Trade of \_\_\_\_\_
6. Related Subjects
7. Other Courses
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_

## VII. SHOP EQUIPMENT

### A. Woodworking tools and machines. (Give number on hand)

- |                            |                          |
|----------------------------|--------------------------|
| 1. Framing squares _____   | 16. Mallets _____        |
| 2. Try squares _____       | 17. Screwdrivers _____   |
| 3. Gauges _____            | 18. Tool Grinders _____  |
| 4. a. _____                | 19. Wrenches _____       |
| b. _____                   | 20. Clamps _____         |
| 4. Dividers _____          |                          |
| 5. Rules _____             | 21. Levels _____         |
| 6. Cross-cut saws _____    | 22. Work benches _____   |
| 7. Rip saws _____          | 23. Bench vises _____    |
| 8. Back saws _____         | Machines _____           |
| 9. Hatchets _____          | 24. Jointers _____       |
| 10. Hammers _____          | 25. Surfacers _____      |
| 11. Planes _____           | 26. Shapers _____        |
| 12. Chisels _____          | 27. Comb, saw _____      |
| 13. Auger bit braces _____ | 28. Band saw _____       |
| 14. Auger, bits _____      | 29. Mortiser _____       |
| 15. Drills _____           | 30. Boring machine _____ |

## B. Masonry tools and machines

	No.		No.
1. Transit	_____	6. Plasterer's trowels	_____
2. Levels	_____	7. Brick hammers	_____
3. Rules	_____	8. Groovers	_____
4. Mortar hoe	_____	9. Floats	_____
5. Brick trowels	_____	10. Concrete mixer	_____

## C. Electric shop equipment

	No.		No.
1. Arc welder	_____	9. Pliers	_____
2. Ammeters	_____	10. Screwdrivers	_____
3. Magnetic analyzer	_____	11. Bit braces	_____
4. Electric gauges	_____	12. Auger bit	_____
5. Voltmeter	_____	13. Electric drills	_____
6. Wattmeter	_____	14. Wire gauges	_____
7. Test kits	_____	15. Motors	_____
8. _____	_____	16. _____	_____

## D. Automobile shop equipment

	No.		No.
1. Air compressor	_____	8. Valve grinder	_____
2. Crane	_____	9. Vulcanizer	_____
3. Car jacks	_____	10. Pressure grease gun	_____
4. Crescent wrench	_____	11. Drill press	_____
5. Monkey wrenches	_____	12. Electric drill	_____
6. End wrenches	_____	13. Screwdrivers	_____
7. Socket wrenches	_____	14. Hammers	_____

15. Pliers

17. Wheel alinger

16. Battery charger

18. Welding outfit

## E. Machine Shop Equipment

No.	No.
1. Lathes _____	7. Vises _____
2. Drill press _____	8. Micrometers _____
3. Shaper _____	9. Grinders _____
4. Lathe tool sets _____	10. Hammers _____
5. Milling machines _____	11. Calipers _____
6. Work benches _____	12. Hand tools _____

## F. Sheet metal shop equipment

No.	No.
1. Squaring shears _____	14. Wiring machine _____
2. Scroll shears _____	15. Setting down _____
3. Rotary circular shears _____	16. Combination _____
4. Rotary slitting _____	17. Crimping and beading _____
5. Bar folding machine _____	18. _____
6. Pipe folding _____	19. Edging machine _____
7. Combination folder and brake _____	20. Punching _____
8. Cornice break _____	21. Roofing rongs _____
9. Forming machine _____	22. Roofing seamers _____
10. Wire bender _____	23. Roofing folders _____
11. Grooving machine _____	24. Bench plate _____
12. Turning machine _____	25. Stake holder _____
13. Wiring machine _____	26. Stakes _____

No.	No.
27. Crimping machine _____	32. Mallets _____
28. Beading _____	33. Gauges _____
29. Bench shears _____	34. Pliers _____
30. Snips _____	35. Nippers _____
31. Hammers _____	36. Soldering sets _____

## G. Printing, Shop Equipment

No.	No.
1. Bookbinding unit _____	13. Presses (Name kind) _____ a. _____ b. _____ c. _____
2. Cabinets (Name kind) _____ a. _____ b. _____ c. _____	14. Punch machine _____
3. Cases _____	15. Rules _____
4. Chases _____	16. Saw trimmer _____
5. Composing sticks _____	17. Spacing material _____
6. Cutters _____	18. Staple binder _____
7. Folding machines _____	19. Tweezers & _____
8. Glue pots _____	20. Type supply _____
9. Linotype _____	21. Type setting machine _____
10. Mitering machine _____	22. Paper drill _____
11. Numbering machine _____	23. Wood furniture _____
12. Planer _____	24. Metal furniture _____
	25. Proof press _____
	26. Stereotyping equip. _____ a. _____ b. _____ c. _____

## H. Tailoring Equipment

	No.		No.
1. Sewing machines	_____	9. Try-on forms	_____
2. Button hole machines	_____	10. Display forms	_____
3. Invisible stitcher	_____	11. Drafting tables	_____
4. Pinking machine	_____	12. Pressing tables	_____
5. Serging machine	_____	13. Display cases	_____
6. Burk boards	_____	14. Electric pressing iron	_____
7. Pressing boards	_____	15. Try-on mirror	_____
8. Sleeve boards	_____		

## I. Cleaning and Pressing Equipment

	No.		No.
1. Storage tank	_____	7. Spotting machine	_____
2. Filter	_____	8. Drying machine	_____
3. Washer	_____	9. Clothes dryer	_____
4. Extractor	_____	10. Scrubbing table	_____
5. Tumbler	_____	11. Steam boiler	_____
6. Pressing machine	_____	12.	_____

## VIII. Teaching Material Supply

1. No provisions made for material
2. Students furnish own material
3. Teacher provides material
4. The school makes provisions
5. Provided by school board
6. Purchased as needed
7. Purchased by the month
8. Purchased by the semester
9. Purchased by the school term

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