

SOME IMPORTANT ASPECTS IN THE DEVELOPMENT OF TRADE
AND INDUSTRIAL EDUCATION IN MONTANA

A Professional Paper

Presented to
the Faculty of the Graduate School
Montana State College

In Partial Fulfillment
of the Requirements for the Degree
Master of Education

by

Melvin G. Cottrell

August 1956

TABLE OF CONTENTS

Chapter	Page
I INTRODUCTION	1
The Problem	1
Need for Trade and Industrial Schools	2
Procedure	4
II TRADE AND INDUSTRIAL EDUCATION ENTERS MONTANA SCHOOLS	6
The Slow Development of Trade and Industrial Education	6
Morrill Acts 1861-1890	7
Founding of Montana State College 1893	9
Manual Training In Public Schools..... (1900-1905)	12
Industrial Education (1908-1917)	14
Founding of Billings Polytechnic Institute 1912	16
A Look Ahead In Trade and Industrial Educ- ation (1914-1916)	20
III TRADE AND INDUSTRIAL EDUCATION UNDER THE SMITH- HUGHES ACT (1917-1920)	21
Administration of Smith-Hughes Program	22
Supervision of Smith-Hughes Program	23
Duties of Director	24
General Conditions For Smith-Hughes Aid	29
Teacher Training for Trades and Industries 1917	38
IV CLASSES ESTABLISHED IN TRADE AND INDUSTRIAL EDUCATION UNDER SMITH-HUGHES 1917-1930	41
Growth and Status During 1917-1919	41
1919-1920	42
1921-1922	43
1923-1924	46
1926-1930	47
V TRADE AND INDUSTRIAL EDUCATION IN MONTANA FROM 1930-1954	52
VI SUMMARY AND RECOMMENDATIONS	60
Summary	60
Recommendations	62

TABLES

Table	Page
1. Enrollment in All-Day Trade or Industrial Smith-Hughes Schools and classes 1919-1922	44
2. Enrollment in Evening Trade or Industrial Smith-Hughes Schools or Classes 1919-1922	45
3. Enrollment in Part-Time Trade or Industrial Smith-Hughes Schools or Classes 1919-1922	46
4. State of Montana Trade and Industrial Educa- tion Day Trade Enrollment 1920-1954	54
5. State of Montana, Trade and Industrial Educa- tion, Evening Trade Extension Enrollment 1920-1954	55
6. State of Montana, Trade and Industrial Educa- tion, Part-Time Cooperative Enrollment 1920-1954	56
7. State of Montana Trade and Industrial Educa- tion, Day-Trade Enrollment by School and Subject	57
8. State of Montana Trade and Industrial, Even- ing Trade Extension Enrollment by School and Subject	58

CHAPTER I

INTRODUCTION

The Problem

The writer's first teaching experience was in auto-mechanics under trade and industry in the Butte High School. Since previous training was directed largely in areas usually characterized as industrial arts, there was a question of how trade and industrial education came about and how it fit into the general program. This led to a desire to investigate some aspects of the development of trade and industrial education in Montana.

It is the purpose of this study to bring together the information on the development of trade and industrial education in Montana, and to give a better understanding of its place in our schools and society.

The information will be secured from magazines, newspapers, Biennial Report of the State Superintendent of public instruction, Montana Law, history books and personal interviews with people that have had a hand in its development.

Need For Trade And Industrial Education

Montana was admitted to the union November 8, 1891, it is rich in natural resources and sitting on the threshold of industrialization.¹ The young people of this great state can be prepared to harvest many of the fruits of these industries by being prepared to choose a vocation and receive adequate training for available positions.

Helping people to realize occupational adjustment and job success is no small contribution to the individual and to society. For the adult, the experience of holding a secure job suited to his capacities, talents, and energies, and fulfilling an honest economic or human need, is a basic requirement for successful living. From this experience flows much that is desirable and necessary in a man's life. Physical health depends greatly upon it, if for no other reason that the need to pay for necessary medical services and for healthful and hygienic living conditions. Holding a job, and enjoying the work connected with it, are essential for emotional health and stability. The subtle influences associated with self-respect, peace of mind, and respect of others, and the pride of daily accomplishment require satisfactory job adjustment in modern society: they nourish and sustain mental and emotional health. John Dewey

¹Collier's Encyclopedia. P. F. Colliers and Sons, Corowell Colliers Publishing Co., New York. 1952. p. 108.

has said, "To find what one is fitted to do and to secure the opportunity to do it, is the key to happiness."² It seems probable, that other things being equal, a man who is happy in his job should be a more thoughtful and unbiased voter. He is likely to be more tolerant and well-disposed toward his fellows. He is surely a better member of a family. His mental and emotional energies are less consumed by worry, dissatisfaction, and fear. These energies are more apt to be turned toward constructive personal, civic, and social affairs.

No Educational program can be considered complete which does not devote a sizable part of its total efforts toward helping people to achieve these outcomes. Sound vocational education performs this service. This idea of vocational education with general education was the feeling in 1862 as brought out by Auchmuty in an article entitled "The Need of Trade Schools."

Some idea of the need of instruction in the Mechanic Arts in the United States was probably present in the minds of the Senators and Representatives when the land grant act of 1862 was passed a clause in this act reads as follows; "The leading object shall be, without excluding science and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and

²Clark Willis W. "Vocational Guidance for Junior High School;" Educational Bulletin No. 15, Published by California Test Bureau, 5916 Hollywood Blvd., Los Angeles 28, California. p. 1.

the mechanic arts in such manner as the States may respectively prescribe in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."³

There was a concern by senators and representatives for the need of trade and industrial training in the schools at that time. The emphasis on this type of education is apparent by, the legislation of federal acts, the Dewey philosophy, and the general concern of the people with developing the country industrially.

Procedure

In no place had the materials of this kind been drawn together; therefore it was decided to go ahead and bring together these materials in order to help understand the trade and industrial program and its development in Montana.

In setting up the original procedure it seemed logical to make an approach to the problem through the Federal Acts as they came into being, but this did not give the true picture because there was no place where it brought in the background of Montana Schools. It was then decided to start with the schools in the state and their development in chronological order and bring the Federal Acts in as they were passed. The next chapter will deal with the first

³Auchmuty, Richard T., The Need of Trade Schools, The Century, Volume XI, 1886. pp. 37-38.

phases of trade and industrial education in schools, such as, industrial arts, the Morrill Acts, and the founding of Montana State College.

CHAPTER II

TRADE AND INDUSTRIAL EDUCATION ENTERS MONTANA SCHOOLS

The Slow Development of Trade and Industrial Education (1894-1917)

The first teaching of trade and industrial education in Montana was in the State Reform School near Miles City in 1894. At this time horticulture, agriculture, planting of trees, laundry work, cooking, masonry, and carpentry were being taught and plans were being laid to introduce printing, telegraphy, shoe-making and manual training. The following portion of a letter from Mr. Hyton to Mr. E. A. Steere, State Superintendent of Public Instruction in 1894, gives a good description of the offering of this school and its operation:

It has been said we are not teaching our boys trades. This person had been laboring under a wrong impression. No reform school under the circumstances in the land has given more time to teaching horticulture, agriculture, planting of trees, laundry work, cooking, masonry and carpentry than we do here. We hope as soon as possible to introduce printing, telegraphy, shoe-making, manual training, and extend our agriculture and horticulture. This will enable us to give to these unfortunate children a knowledge of one or more trades by which they can support themselves and aid their parents.

At the present rate of commitments the school will reach its capacity by June 1895. This will compel us to build next summer and

with the aid of one good mechanic the boys can be taught to lay stone and brick, also do the carpentry. The brick could be made by the boys if we could find brick clay close by the institution.¹

The founding of the industrial school at Miles City in 1894 and the establishment of Montana State College in 1893, reflected the feeling of the people at this time for agriculture and industrial types of training. The passing of the Morrill Acts in 1861 and 1890 had also emphasized industrial training.

Morrill Acts 1861-1890

The first Morrill Act passed in 1861 gave each state 30,000 acres of land for each member of Congress, a total of 90,000 acres for Montana to establish a college to teach the branches of learning as are related to agriculture and the mechanical arts. The "second Morrill Act" passed in 1890 provided \$25,000.00 to be given to each "land grant" college annually.²

The thinking of the time was stated rather well by Reid³ in his article "The College of Agriculture and Mechanic

¹Third Biennial Report of the Superintendent of Public Instruction, State of Montana, State Publishing Co. State Printers, Helena, Montana. 1895. pp. 235-238.

²Prosser and Allen. Vocational Education in a Democracy, The Century Company, New York. 1925. p. 135.

³Professor James Reid "The College Agriculture and Mechanic Arts," Rocky Mountain Magazine; Vol. I., No. 3. November, 1900. p. 166.

Arts". In this article he brought out the idea that thoughtful men have long recognized the necessity of broadening our educational system so that a college education might be possible not only for the physician or lawyer, but for the farmer, the mechanic, and the merchant. This was made necessary by the advances in science and its varied application to the industrial arts. It was this feeling which gave rise to the Morrill Act of 1862, by virtue of which Congress made a liberal donation of public lands to establish and maintain Colleges of Agriculture and Mechanic Arts in all the states and territories. The growing power and influence of these colleges more than justify the liberal endowment given to them by the federal government. It shows the faith of the American people in education that an act so beneficent and far reaching should have passed into law in the midst of civil strife.

The First Morrill Act: provided that 30,000 acres of land should be given to each state for each senator and member of Congress, the proceeds from the sale of which were to form permanent funds for the support and maintenance of Colleges of Agriculture and Mechanic Arts, was signed by Abraham Lincoln on July 2, 1862. The leading object of these colleges was very explicitly stated. The primary purpose was to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life,

without excluding scientific and classical studies.⁴

The Second Morrill Act: was passed by Congress in 1890 for the more complete endowment and maintenance of these colleges. This Act provided for each institution an annual cash endowment of 25,000 dollars. The language of both Morrill Acts revealed that these colleges belonged to the people, the aim being to provide a liberal and practical education for the children of all the industrial classes.

A misapprehension often prevailed in regard to the function of these colleges and the scope of their power, and Montana was not exceptional in this respect. It was thought from the name that their sole purpose was to make farmers of their graduates. They had been criticized because the students did not choose agricultural courses, and because their graduates saw fit to follow some other vocation than that of farming.

Founding of Montana State College 1893

The object of the Morrill Acts was plainly the establishment of schools of applied science or technical schools. The leading object was to teach the principles and the application of science, to teach subjects that relate to the useful arts, and to give education a more practical and industrial character. The college at Bozeman was a school of

⁴Ibid., p. 167.

applied science. One of the sciences taught was agriculture, but while the subjects relating to agriculture were taught, so were the subjects relating to the mechanic arts. It was an Agricultural College, but it was a great deal more. The name Agricultural College gave no conception whatever as to the scope of its work. Since Land Grant Colleges were endowed in 1862, it was necessary to keep explaining to the people that the design of the Morrill Act under which they were founded was to establish technical or industrial schools where the children of the industrial classes could receive a training to fit them for life, whatever calling they intended to pursue.

They were the outcome of a strong popular movement to make higher education more general, and to make it more practical in character. The intense conservatism of the colleges and universities of that time gave rise to a demand for colleges of a different character in which training in the principles and application of the sciences should have a larger place. Training in the ancient classics, pure mathematics, and literature made up the curriculum of that time. The applications of chemistry, physics, mechanics and biology to the rapid development of the various industries gave an intense urgency to the call for industrial training. The iron and steel industry, railroad building, bridge building, and the varied lines of material development

were calling for men whose training was more scientific and practical. While people kept asking whether they taught anything other than farming, the college continued to explain that they taught farming and almost every other subject that any young man or woman might wish to acquire. It was the purpose of the act endowing these colleges that they should adapt themselves to the industrial conditions of the various States in which they were located.

The industrial needs of the state were kept constantly in view in the arrangement of work and the establishment of courses in the Montana College of Agriculture and Mechanic Arts at Bozeman.⁵

The Collegiate department had within it eight four-year courses leading to appropriate degrees, viz: General Science, Agriculture, Biology, Chemistry, Home Science, and courses in Mechanical, Electrical and Civil Engineering. A four-year course was also given in Art and one in Music.

The practical feature of instruction was emphasized and while the morning hours were spent in the classrooms in recitations, the large proportion of the students could be found in the afternoon in the wood and iron shops and in laboratories. That person must be apathetic indeed in whom an interest would not be awakened as he visited the various rooms, shops and laboratories and saw the students at work.

⁵Ibid., p. 7.

This was the beginning of the movement of Federal Aid to vocational education. Montana State College was established with emphasis on agriculture and industrial training. The high schools were springing up in the state, and they were doing what they could to further industrial education by establishing manual training classes in these schools.

Manual Training in Public Schools (1900-1905)

Industrial training had come to stay. Montana had slowly come to realize this fact. In 1900 manual training was introduced into the Helena public schools and by 1905 Billings, Missoula and Butte also had courses. Other schools were in the process as soon as suitable equipment could be obtained.⁶

The State Superintendent of Public Instruction could see the need for this training in our schools. The child trained to handle tools and work with his hands had an advantage not possessed by others as shown in the biennial report of 1905-6:

Its importance as an educational factor in no longer a debatable question. As Chas. R. Skinner well says: "It may be asserted that the genius of American civilization is such that a child trained in our public schools will surmount any difficulty and win out even though he

⁶Ninth Biennial Report of the Superintendent of Public Instruction, State of Montana, Independent Publishing Co., Helena, Montana. 1905-6. pp. 26-27.

is reared in ignorance of any manual effort." This may be true, but it is certainly unfair and unnecessary to compel him to enter the race under such a handicap. I would not place too great emphasis upon this utilitarian feature, but it must be admitted that the child trained for a series of years to handle tools and to do things starts upon the race for honest supremacy enriched with a power not possessed by others.⁷

Some of the fundamental reasons for introducing manual training into schools according to the report of the state superintendent were:

1. It is an essential element in a complete and symmetrical education.
2. It arouses and develops brain centers otherwise left dormant.
3. It gives a training to the hand and to the eye that insures accurate observation and skillful execution.
4. It affords a line of preparation for living a useful and helpful life not obtained through other forms of study.
5. It tends to physical well-being and a correction of certain evils now too prevalent in our schools.
6. It tends to give dignity to, and respect for, labor certainly a most desirable sentiment to implant in the minds of the young.⁸

Experience had shown also that the time given to manual training did not impede progress in intellectual development, but it was a stimulus to better work and to more rapid progress.

⁷Ibid., p. 26.

⁸Ibid., p. 27.

The State course of Study provided for the teaching of agriculture in the last four grades of the common school. At this time the government was spending a lot to bring arid lands under irrigation, and the agricultural college was doing a large amount of work in demonstrating that dry land farming could be made a success. Educators generally were trying to interest the boys and girls in the work on the farm. Agriculture was receiving the attention that it rightly deserved. Through industrial activity in the schools one should be justified in expecting to see better built and more convenient houses, better home surrounding, better tilled farms, better stock, a larger bank account, and best of all more contentment in the higher ideals of living.

Industrial Education (1908-1917)

The trades, the arts and crafts, domestic science and agriculture, and all of the occupations and pursuits in practical life, together with the necessity of having a knowledge of them, and the preparation of our children to follow them, never before stirred public opinion nor claimed public attention as widely as it did at this time. The trend toward more industrial training in the public schools was due to the growing demand for more skilled labor. Cotton, State Superintendent at that time, brings this idea out in the biennial report.

In 1910 State Superintendent of Public Instruction F. A. Cotton stated, "Every community has a dominant industry which may become the specific work of the schools. For the rural community, agriculture is the logical industry, in other communities other industries will determine the leading kinds of occupation. The aim of industrial schools is not to make all farmers' boys farmers, or all carpenters' sons carpenters; but to make all girls and boys efficient and skillful in some direction. They will take up every form of industry, and every farm, factory, mine and shop, will demand skilled labor."⁹

The school work must be more practical for the great army of children in the grades, four-fifths of whom never reach the high school.¹⁰ Education had been and was for the head and not for the head and hand. It had prepared for college instead of for living. It had been too bookish, it was adapted only to those who can follow along educational careers. It had looked toward to the careers of lawyers, doctors, preachers, teachers, and leaders. It seems to have overlooked and ignored the needs of the vast army of laborers, the common people of the land. It had prepared the bosses and overseers and had not thought of skilled labor in the ranks. In this sense school work had been practical but it had not met the needs of the common people, the overwhelming majority of whom must continue to work with their

⁹Eleventh Biennial Report of the Superintendent of Public Instruction, State of Montana, Independent Publishing Co. Helena, Montana. 1910. pp. 70-71.

¹⁰Ibid., p. 13.

hands. Some of the problems the school had to face in training industrial education were:

1. It must exalt the dignity of labor.
2. It must teach habits of industry.
3. It must give ability to apply one's self to the problem in hand.
4. It must meet the demand for accurate, skillful work.¹¹

Some of the best modern high schools at this time had, in addition to the usual academic subjects, courses which lead to trades and industries. They were called industrial schools. Pupils took both courses in the same time that pupils in our schools complete the academic courses. Every child that graduated from this class of school was not only thoroughly trained in the academic subjects but had a trade which enabled him to learn a living if necessary. The high school must not only help to find the vocation but it should also offer some training that gives the preparation for the life pursuit, so that when a child leaves school he may enter that pursuit at once, or if he had the means, make further preparation for it in a technical school.

Founding of Billings Polytechnic Institute - 1912

This Institution was founded in 1908 through the generosity and farsightedness of Hon. John D. Losekamp and

¹¹Ibid., p. 14.

other public spirited Billings citizens. Mr. Losekamp, who was the author of one of the first laws founding high schools in Montana, had long felt that there was a great need in this state for an institution of learning that would meet the need of that great number of young people who did not fit into the regular public school system, and had long been planning how to organize a school that would meet this need and thus supplement the state educational institutions and the public schools in giving all the young people of Montana a training for useful citizenship.¹²

Plan of This Unique School. First and foremost the school planned to train boys and girls for useful citizenship. The managers of the institution realized that the class-room work could fill but a small part of the training. It was a well known fact that many boys and girls sent to distant cities to attend classes in the state institutions and county high schools did not have the care and attention outside of the classroom which develops self-control and good habits and for that reason they do not get the training most essential to useful citizenship.

The Polytechnic controlled the environment of its students 24 hours each day and seven days each week. In order to do this the institution was built on a large irrigated

¹²Twelfth Biennial Report of the State Superintendent of Public Instruction, State of Montana, Independent Publishing Co., Helena, Montana. 1912. pp. 109-110.

farm three miles from Billings. This splendid farm was a gift of Mr. James J. Hill, who was deeply interested in the plans and purposes of the school on the farm with its gardens, orchards, dairy and the fine farm crops was built a little community which was organized into a complete self-governing state.

The student officers of this school consisted of a student State Governor, Lieutenant-governor, Secretary-of-state, Chief Justice, Trail Judge, State Marshal and Legislators were elected by the citizens of the state. It is doubtful if there was a better governed community in the world than this little student republic. Its laws were just and were conscientiously enforced. The young man who spent a few years in this community was trained to become a statesman and was ready to take a leading part in public affairs of his community.

Industries In The School. The industries which were connected with the school include the raising of all kinds of farm crops on irrigated and dry land, the caring for fruit, the canning of vegetables, caring for stock, making of butter, the care of poultry and bees, the building of the various buildings, carpentry, blacksmithing, plumbing and furniture making. These various industries gave the self-supporting student an opportunity of working his way through school. Practical courses were offered in commerce, normal

training for rural and graded school teachers, preparatory engineering, practical agriculture, domestic science, and music. There were no entrance requirements. Students of any stage of advancement were received and their school work was adapted to their individual needs. The students maintained a non-sectarian church, literary societies, and an athletic association. The aim of the managers was to train them in every department of life and to surround them while at the Polytechnic with many interests in order that their minds may be occupied with things worth while.

What The School Had In The Way of Equipment. This institution received no aid from the state. All that it had was given to it by those interested in its plans and purposes. Mr. James J. Hill, of St. Paul, had given \$25,000 in cash which was invested in the farm. The citizens of Billings gave nearly \$100,000 for the erection of buildings and the purchase of equipment.¹³

At this time it had accommodations for one hundred young people and preparations were being made to double the capacity the coming year. Applications for admission indicated that five hundred young people would be in attendance as soon as accommodations could be provided for them.

¹³Ibid., p. 110.

A Look Ahead In Trade And Industrial Education
(1914-1916)

For the years 1914-1916 little or no progress was accomplished in furthering trade and industrial education in Montana; But during this time the national picture was looking much brighter, the legislation was in the process of setting up laws that would appropriate Federal money to help the state with the much needed vocational education programs.

CHAPTER III

TRADE AND INDUSTRIAL EDUCATION UNDER THE SMITH-HUGHES ACT 1917-1920

National And State Legislation

The Smith-Hughes Act was passed to provide for the promotion of education in agriculture and trades and industries; to provide for cooperation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure.¹

After the Smith-Hughes Act was passed it was necessary for the State to pass an act to accept the terms and provisions of the Federal Act giving aid to the state for vocational education and to authorize the State Board to provide for an Advisory Board and Board of Education to establish vocational education in the public elementary schools and public high schools of the State; to provide for the training of teachers of vocational subjects, designating the State Treasurer as Custodian for vocational education with authority to accept and disburse money received from the Federal Government for vocational education and appropriating money to

¹"Vocational Education Bulletin No. I." Revised Edition; United States Government Printing Office: Washington D. C.: 1937. p. 75.

meet appropriations made available by the Federal Government for such purposes.²

This was fine except the Legislation did not provide any funds for the State Education to administer the program until 1919.³

Administration of Smith-Hughes Program

The general direction of the Smith-Hughes act was under the control of the state board of education in accordance with power conferred upon it by Chapter 102 of the laws of the 15th legislative assembly of Montana in 1917.⁴ This law was passed to give the State the power to administer the Smith-Hughes program in the State. As provided by the constitution of the state, this board was composed of the governor. The first members of this board were Governor S. V. Stewart, Attorney General S. C. Ford, Superintendent May Trumper, and Messrs, C. H. Hall, J. Bruce Kremer, Leo H. Faust,

²Laws, Resolutions and Memorials of the State of Montana:
Passed by the Fifteenth Regular Session of the Legislation Assembly; Published by State Publishing Co., 1917. p. 173.

³Laws, Resolutions and Memorials of the State of Montana:
Passed by the Sixteenth Regular Session of the Legislation Assembly; Published by the State Publishing Co., 1917. pp. 399-400.

⁴Laws, Resolutions and Memorials of the State of Montana:
Passed by the Fifteenth Regular Session of the Legislation Assembly; Published by State Publishing Co., 1917. p. 173.

Ward H. Nye, W. S. Hartman, Wm. S. Bole, John Dietrich and A. L. Stone.⁵

At a meeting of the state board of education on January 17, 1919, it was voted that the committee on vocational education be as follows: Miss May Trumper, Chancellor E. C. Elliott, John Dietrich, A. O. Gullidge, and Miss Jane Keeney.

The state board of education gave to this committee the immediate administration and supervision of the details of the plan and policy of vocational education. The state board of education directed that all official communications between the federal board for vocational education and the Montana state board of education relative to the administration in Montana of the Smith-Hughes act be conducted through the office of the superintendent of public instruction.

Supervision of Smith-Hughes Program

Schools receiving aid under the provisions of the Smith-Hughes act and the cooperating state act were required to report quarterly to the director of vocational education for Montana, furnishing in detail whatever information desired by the director. If, in the judgement of the director, a school was not conforming to the regulations of the federal board for vocational education and the

⁵"State of Montana Plans for Vocational Education", 1919-1920. Department of Public Instruction, Helena, Montana. July 1919. pp. 7-8.

regulations of the state board of education, such school upon the recommendation of the director and the approval of the committee on vocational education would be deprived of the benefits of the federal and state acts until the said rules and regulations were observed. A representative of the vocational education committee would visit at least once each quarter the schools receiving aid under the Smith-Hughes act and the state act supplementary thereto.⁶

Duties of Director

The general administration of all the funds for vocational education was placed in the hands of the state director of vocational education. L. R. Foote, who is general director of agricultural, trade and industrial, home economics, commercial education, and teacher training.

The duties of the director as outlined were to act as mediator between the state and federal boards, recommend schools and classes for approval and reimbursement, prepare reports, keep records, help set up the program throughout the state and audit all bills and approve them before being presented for payment. The actual rules set up by the state board were:

1. To act as the medium between the state and the federal boards.

⁶"State of Montana Plans for Vocational Education," 1919-1920. Department of Public Instruction, Helena, Montana. July 1919. p. 10.

2. To recommend to the state board of education thru the state committee on vocational education the schools and classes for approval and for reimbursement.
3. To prepare forms for reports from vocational schools and classes.
4. To keep a record of the receipts and disbursements of vocational state and federal funds for agriculture, trades and industry, home economics and teacher training.
5. To bring together all parties in the state interested in vocational education for the support of a state program of vocational education.
6. To direct the vocational staff in agriculture, trades and industry, home economics and teacher training.
7. To inaugurate and to promote industrial surveys in various centers of the state.
8. To direct and promote vocational education.
9. To outline and present policies regarding vocational education to the state board of education thru the committee of vocational education.
10. To prepare state plans for administering vocational education in conformity with the requirements of the federal board for vocational education.
11. To audit all bills and expense accounts and approve the same before presented for payment.⁷

⁷Ibid., p. 11.

Supervision of Trade and Industrial Education

In order to have adequate supervision of trade and industrial education to conform to the provisions of the Smith-Hughes act in part-time schools, unit-day schools, and short-unit evening schools, the state board of education employed L. R. Foote who devoted one-half time to supervision at a salary of \$1,250.

Duties of the Supervisors. His duties were to assist the director, make reports, inspect classes and schools, supervise the work of teachers, help schools set up vocational programs and prepare annual reports of the work of the school or classes under their direction. The rules as prescribed by the State board were:

1. To assist the director in preparing plans for vocational education as they relate to their departments.
2. To make such reports to the director of their visits for inspection and supervision as he may require.
3. To inspect the various classes and schools in vocational education of their respective departments as to plan and equipment, and as to compliance with the requirements of the state board and the agreements of the schools to comply with the same.
4. To supervise the work of the teachers in their separate departments and to assist those teachers in organizing and conducting the vocational schools and classes.
5. To assist, with the approval of the director, schools, not now designated as Smith-Hughes vocational schools, to establish classes and

courses in the various vocational lines which may later be approved by the director and state board of education.

6. To assist schools and superintendents to prepare plans and agreements to meet the requirements of the state board of education.
7. To prepare circulars and bulletins with the approval of the director in their various lines for specific and general distribution.
8. To prepare annual reports of the work of the schools or classes under their direction as to the number of students enrolled, teachers employed, salaries paid, and other specific and general items as well as the general progress of vocational education in their departments.
9. To assist the director in encouraging and promoting vocational education in the state.⁸

Teacher Training. The state board of education had designated both the State College of Agriculture at Bozeman and the State University at Missoula as the institutions in which to conduct the training of teachers both resident and itinerant of agriculture, trades and industry, and home economics. Missoula was designated to conduct the training of teachers of home economics only. The president of each institution was named as director of teacher training so far as it applied to his institution and its duties for the training of teachers of vocational subjects. In order to get reimbursement for teacher training the president had to observe the following regulations:

⁸"State of Montana Plans for Vocational Education 1919-1920." Department of Public Instruction; Helena, Montana. July, 1919. pp. 13-14.

1. The same board as the board in charge of the institutions which is to do the work is in charge of the teacher training, therefore the state board of education has full control.
2. All work in teacher training will be in classes under public supervision and control.
3. Such training will be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers, supervisors or directors, or who are acquiring such experience or contact as a part of their training.
4. Not more than sixty percent nor less than twenty per cent of all money appropriated for teacher training shall be spent for any one of the following purposes: For the preparation of teachers, supervisors or directors of agricultural subjects, or the preparation teachers of trade and industrial subjects, or the preparation of teachers of home economics subjects.⁹

Duties of Directors of Teacher Training. The director of teacher training at the Agricultural College, Bozeman, was the president who directed the preparation of teachers for agricultural subjects, trades and industrial subjects and home economics subjects. He was required to work with the director of vocational education under the following regulations:

1. He shall, under the direction and with the cooperation of the state director of vocational education, conduct at centers evening classes in teacher training for teachers of shop and related subjects.
2. He shall, under the direction and with the cooperation of the state director, direct and conduct teacher training classes at

⁹Ibid., p. 15.

centers for teachers of part-time and evening classes.

3. He shall likewise direct and conduct itinerant teacher training wherever practical for teachers now employed in agricultural, trades and industrial and home economics schools and classes.
4. He shall likewise conduct, if found practical, correspondence courses for teachers now in service who wish to prepare themselves for teachers in Smith-Hughes vocational schools.¹⁰

Gen

General Conditions For Smith-Hughes Aid

No school was approved to receive aid under the provisions of the Smith-Hughes act and the state act until the following conditions set up the state board were met:

1. The school must be under public supervision or control.
2. Controlling purpose to fit for useful employment.
3. Less than college grade.
4. For persons over fourteen years of age.
5. Every dollar of federal funds must be matched by a dollar of state or local money or both.
6. Money to be expended only for:
 - a. Salaries of teachers, supervisors, or directors of agriculture.
 - b. Salaries of teachers of trade, home economics, and industrial subjects.

¹⁰Ibid., p. 16.

- c. Maintenance of teacher training for teachers, supervisors of directors of agriculture. Maintenance is not to include the purchase, erection, preservation, or repair of any building or buildings or equipment, or for the purchase or rental of lands, or for the support of any religious or privately owned or conducted school or college.
- d. The salaries and expenses for supervision of vocational education in accordance with ruling of federal board of July 11, 1918.¹¹

Schools And Classes For Trade and Industrial Education.

The Montana state board of education through its committee on vocational education established the several kinds of trade and industrial schools and classes in 1917.

- 1. Evening industrial schools and classes.
 - a. For men and boys.
 - b. For girls and women.
- 2. Part-time schools or classes in school districts of first-class, and in county high schools in districts of the first class.
 - a. In trade extension.
 - b. In trade preparatory.
 - c. In general continuation.
- 3. Unit trade day schools or classes.
- 4. General industrial day schools or classes in towns and cities of less than 25,000 population.¹²

¹¹Ibid., p. 17.

¹²Ibid., p. 18.

Evening Industrial Courses or Classes Under Smith-
Hughes in 1917. The controlling purpose was to provide training supplementary to the daily employment for persons over 16 years of age engaged in industrial occupations. The specific regulations as specified by this act and adapted by the state were:

1. The minimum entrance age shall be 16 years.
2. The state board of education shall require, thru its committee on vocational education, sufficient equipment in plant and laboratory and sufficient guarantee in funds from the various schools where evening classes are conducted to insure the proper teaching and the employment of properly qualified teachers.
3. The state board is unable because of lack of experience, to set a minimum for maintenance. It shall, however, require on the part of the community a sum of money for equipment and supplies that will warrant efficient instruction in the trade to be taught.
4. The course in evening classes shall be short unit courses of 10 to 50 lessons each, depending upon the kind of trade.
5. All instruction given in evening schools must be supplementary to the day employment of the pupil.
6. The methods of instruction in evening school must, in all cases, conform to the best practices in teaching related and shop subjects. In related subjects, the course should be designed to supplement the day employment of the pupil and should be such as will satisfy his needs for technical information in the line of his employment. In shop subjects, the pupil since he is already employed in a

trade, shall be given trade extension work. Individual instruction will generally be necessary in evening schools.¹³

Qualifications of Teachers. The state board of education set up the qualification of teachers in trade and industrial education to coincide with the provisions of the Smith-Hughes Act and the requirements of the state as listed below:

1. The state board of education required that the shop teacher be qualified by experience of two to three years in the trade in which he was giving instruction beyond the period of apprenticeship and the completion of the eighth grade and possessed personal qualifications acceptable to the state board of education.
2. In the case of related subjects the state board shall be satisfied that the teacher has had satisfactory trade contact, that he possesses the ability to instruct, and to analyze his trade, and that he is able to command the respect, confidence and good will of the students in his evening classes.¹⁴

Part-Time Schools. The trade extension part-time schools or classes were established to broaden the knowledge and improve the skill of persons, over 14 years of age, in the trade in which he was then employed. The regulations governing the part-time schools were:

1. The controlling purpose of the trade extension school or class is to broaden the knowledge and to increase the skill of the person in the trade in which he is now employed.

¹³Ibid., p. 18.

¹⁴Ibid., p. 19.

2. All pupils must be over 14 years of age.
3. The plant and equipment required for part-time schools shall be essentially the same as given for day schools.
4. On account of lack of experience, the state board is unable to determine a minimum sum for maintenance in part-time schools. The minimum sum for maintenance shall be the same as required for day schools doing similar work.
5. Type Courses. The board was not prepared at this time to outline any courses since no schools have as yet been established.
6. The methods of instruction shall be similar to those in the evening schools.
7. Length of Term. The term shall be not less than 144 hours. (60 minutes) instruction per school year.
8. Qualifications of Teachers. The same qualifications which are required for evening teachers will be required for teachers in trade extension part-time schools.¹⁵

Trade Preparatory Part-Time Schools or Classes. These schools or classes were established to help persons over the age of 14 prepare for a different occupation than the one in which they were then employed. The state board regulations set up for these classes were:

1. The controlling purpose shall be to fit persons, who have entered on employment, for a trade or pursuit other than the one in which they are now engaged.
2. For persons over 14.
3. The plant and equipment required for part-time schools shall be essentially the same

¹⁵Ibid., pp. 20-21.

as fiven for day trade schools.

4. On account of lack of experience, the state board was unable to determine a minimum sum for maintenance in part-time schools. The minimum sum for maintenance shall be the same as required for day schools doing similar work.
5. Type Courses. The board was not prepared at this time to outline any courses since no schools had as yet been established.
6. Methods of Instruction.
The methods of instruction shall be such as are suitable for pupils from 14 to 18 years of age, who have a limited time in which to acquire specific trade preparatory training. Explanations and demonstrations shall be largely individual. The teacher shall guide and direct the pupils in their work and not do the work himself while the pupils observe. While the shop work must be placed on a useful or productive basis, it should be understood that instruction was the prime function of the teacher at all times, and the manufacture or production of useful article must not be permitted to subordinate the principal work of the teacher and the best interests of the pupils.
7. Length of Term. The term would be not less than 144 hours (60 minutes) of instruction per school year.
8. Qualifications of Teachers. The same qualifications which are required for day trade school teachers would be required for teachers in trade preparatory schools or classes.¹⁶

General Continuation Schools or Classes. The controlling purpose was to extend the general education of the individual or to provide educational opportunities in any line

¹⁶Tbid., pp. 23-24.

intended to increase his civic or vocational intelligence,

The state regulations were:

1. The minimum entrance age shall be 14.
2. The state board would require that there be equipment equal to that supplied for regular schools of the locality.
3. On account of lack of experience the state board was unable to determine a minimum sum for maintenance in part-time schools. The minimum sum for maintenance should be the same as required for day schools doing similar work.
4. In general the courses would be selected from the subjects of the elementary or the high school curriculum with special emphasis on citizenship in addition to those subjects needed by each individual student to complete his elementary course. Those who had completed the elementary courses should be taught in such high school subjects as it was possible to arrange for.
5. Methods of Instruction.
The methods of instruction would conform to the best current practice of teaching non-vocational subjects in day schools, and all courses must be intensive and eliminate all subject matter not essential to a well rounded course of instruction.
6. The term shall be not less than 144 hours (60 minutes) of instruction per school year. It is expected that classes will meet four hours per week for not less than 36 weeks.
7. Qualifications of Teachers.
The teacher selected for this kind of school must possess qualifications for teachers in day schools, must be of pleasing personality, in sympathy with the work and able to adapt the courses to the varying needs of the pupils, and able to instruct either in classes or by individual or private instruction.¹⁷

¹⁷Ibid., p. 25.

Day-Unit Trade Schools or Classes. The purpose of such schools or classes was to teach distinct trades or occupations, and to fit the individual for useful employment in a particular trade. These classes of schools were organized for the high school youth. The specific regulations governing these schools were:

1. Pupils must be over fourteen years of age.
2. In every case the state board required shops suitable for the work which was to be carried on in the school and equipment sufficient in quantity to insure satisfactory instruction in the trade to be taught.
3. It requires each school and adequate appropriation to insure the services of properly qualified teachers and a sufficient sum available for supplies to guarantee satisfactory instruction in the trade or industry which the school intended to teach.
4. The course of study was arranged so that 50% of the entire school day was devoted to shop work on a useful or productive basis and 33 1/3% would be devoted to related technical instruction. By related work was meant drawing, mathematics and sciences related to the trade or industry for which the class was organized. In general it was recommended that each student should carry one non-vocational subject. Whenever schools, departments or classes were organized under this plan, the state board submitted the course of study to the federal board for approval.
5. The methods of instruction shall be such as are suitable for pupils 14 to 16 years of age who wish to prepare themselves for profitable employment in some skilled trade. In the shops, explanations and demonstrations shall be given to groups; other instruction shall be largely individual. The shop work shall not be given as a series of exercises, but shall be conducted in a manner similar

to the prevailing practice in well managed commercial shops doing work of a similar character. The teacher shall guide and direct the pupils in their work and not do the work himself while the pupils observe.

6. While the shop work must be placed upon a useful or productive basis, it was understood that instruction was the primary function of the teacher at all times. The manufacture or production of useful articles must not be permitted to subordinate the principal work of the teacher and the best interest of the pupils.
7. Instruction in related subjects shall be by recitation and the question and answer, and problem method. Problems in related mathematics, trade science and drawing shall, so far as practicable, be taken from actual problems in the trade or industry being studied.
8. Not less than half time shall be given to shop work on a useful or productive basis.
9. Whenever such classes are organized, the school term shall consist of not less than nine months.
10. The school must be in session for at least 30 hours per week.
11. Under the course of study three kinds of teachers shall be required, teachers of shop practice; teachers of related subjects; teachers of non-vocational subjects. Qualifications of the teachers of the above groups are as follows:
 - a. For teachers of shop subjects, adequate trade experience was required. The state board required graduation from an elementary school or its equivalent and a minimum of three years' experience in the trade beyond the period required to learn the trade, commonly known as the period of apprenticeship. It was understood that all shop teachers were chosen because of their high standing among the

workmen of their trade and because they were persons of good health and character.

- b. Teachers of related subjects must be graduates of a four year high school and must have had at least two years' experience in the trades related to the subject which they were required to teach; or at least two years' education in a technical school of college grade and successful contact with the trade or trades for which related instruction was to be given. The shop teacher would conduct the classes in related subjects whenever it was possible to employ a man who possesses both technical and practical qualifications.
- c. In selecting teachers of non-vocational subjects, the state board would require the local community to appoint good teachers of successful experience and able to arrange the content of the non-vocational subjects so as to meet the needs of the pupils from a trade or industrial viewpoint. This means that the teachers of non-vocational subjects must understand the general problems of vocational education and must be in sympathy with the needs of those who are to enter wage earning occupations.¹⁸

Teacher Training For Trades And Industries 1917

Teacher training in trade and industrial education was at the State College of Agriculture and in evening classes in centers where there was sufficient demand for the organization of classes in teacher training.

The work undertaken at the State College of Agriculture was shop and related work; in the evening classes the work

¹⁸Ibid., pp. 25-26.

was set up for the training of teachers for all day, evening and part-time schools or classes.

Requirements For Shop Teachers. The entrance requirements for students direct from the trades was three years of experience in one of the trades to be taught in addition to the usual apprenticeship and a common school education.

Students recruited from the technical schools and colleges must have had direct contact with a trade or have been trained in a school shop conducted on a useful or productive basis.

Two courses were maintained at the State College, a two year course and a four year course.

Outline of Course of Instruction. The scope and meaning of vocational education was given in a broad general policy so as to include all that wanted it and give an over all picture. General objectives of vocational education were:

1. Meet changing economic conditions.
2. Meet demands for conservation of manhood and womanhood.
3. Survey of vocational education.
4. Relation of vocational education to general education.
5. Aims and purposes of vocational schools.
 - a. Day vocational education.
 - b. Part-time education.
 - c. Evening schools.

6. Types of vocational education required to meet the needs of various trades and occupations.
7. Smith-Hughes act, Montana state vocational educational law, organization and administration of vocational education and standards to be met.¹⁹

The teacher training courses taught at Montana State College were under the supervision of the state supervisors. It was the plan that they would be given by the members of the staff for vocational education.

Under the Smith-Hughes act, state legislation for vocational education, and the rules and regulations by the State board of education, the machinery was organized to assist and reimburse the Montana schools for vocational education.

The next chapter takes up the operation of the program in the schools, and brings out some of the important factors in the development of trade and industrial education in the state.

¹⁹Ibid., p. 35.

CHAPTER IV

CLASSES ESTABLISHED IN TRADE AND INDUSTRIAL EDUCATION
UNDER SMITH-HUGHES 1917-1930

Growth And Status During 1917-1919

The national movement for the encouragement of vocational education was recognized by an appropriation by the legislature in 1917 to meet the provisions of the Smith-Hughes act. The work was well-started in one high school in 1917-18 and was organized in several other high schools in 1918-19.¹ More and more clearly we were seeing the advisability of sending boys and girls from our high schools prepared to earn a living. There were always a large number of high school students who are obliged to forego a college education and to whom the school owes as much attention as it gave the student who was preparing for college. It was for the purpose of making students efficient in some wage-earning occupation that the vocational educational work had been encouraged. As yet two of the most important features of this work as carried out in other states had not been

¹Fifteenth Biennial Report of the State Superintendent of Public Instruction of Montana, Independent Publishing Co., Helena, Montana. 1918. p. 77.

touched in Montana - part time and evening classes. It was hoped that such work would be offered in a number of out high schools during the year 1918-19.

During the school year of 1917-18 Flathead County high school was the only school reimbursed for Smith-Hughes work in trade and industrial education.

1919-1920

The report by the State Superintendent indicated, the work in vocational education in Montana had made steady progress during the past year, although it was more gradual than would have been the case if schools could have been reimbursed more generously. Nevertheless, trade and industrial work has been carried into new fields with much success.²

Through out Montana during the school year 1919-1920 the following types of schools and courses were established.

2 all day unit trade schools.

3 compulsory part-time schools.

13 evening trade extension classes.

The places where they were established are given in tables 1, 2, and 3.

Both of the day unit trade schools gave instruction in automobile and gas engine repairs, while the compulsory

²Sixteenth Biennial Report of the State Superintendent of Public Instruction of Montana, Independent Publishing Co., Helena, Montana. 1920. p. 73.

part-time schools, for the most part, took up general continuation work for those boys and girls between the ages of fourteen and eighteen who were compelled to leave school and go to work.³

In one of the part-time schools one class was operated in trade extension work in the printing industry.

The evening classes, for the most part, thruout the state were confined to trade extension and the subjects taken up were as follows:

Blueprint reading, sketching, shop mathematics and electricity for miners.⁴

During this period eight schools had evening classes, they were, Butte, Custer County, Great Falls, Park County, Klein, Anaconda, Flathead County, and Fergus County, to reimburse schools meeting the standards of instruction under the Smith-Hughes Act.

1921-1922

During this two year period vocational education in Montana high schools did not progress normally due in great measure to the financial difficulty in which many of the school districts found themselves. Lack of development had shown itself rather in discontinuance of departments already established than in reluctance to introduce new departments.

³Ibid., p. 73.

⁴Ibid., p. 74.

It was encouraging to note that, where discontinued, vocational work had usually been temporarily interrupted, not permanently suspended; in the majority of cases school boards and school administrators are looking forward to the time when the vocational work could be reintroduced in their schools.⁵

Even with this financial handicap the progress in the field of vocational education designated as Smith-Hughes work had been gradual and constant. In tables 1, 2, and 3 following is a summary of pupils enrolled under trade and industrial education in Smith-Hughes work during the last three years such departments have been in operation.

TABLE 1. ENROLLMENT IN ALL-DAY TRADE OR INDUSTRIAL
SMITH-HUGHES SCHOOLS AND CLASSES 1919-1922⁶

Name of School	1919-1920 Enrollment	1920-1921 Enrollment	1921-1922 Enrollment
Fergus County High School	61	56	44
Flathead County High School	51	30	36
Lincoln County High School			10
Total	111	86	90

⁵Seventeenth Biennial Report of the State Superintendent of Public Instruction of Montana, Independent Publishing Co., Helena, Montana. 1922. p. 28.

⁶Ibid., p. 29.

TABLE 2. ENROLLMENT IN EVENING TRADE OR INDUSTRIAL
SMITH-HUGHES SCHOOLS OR CLASSES 1919-1922⁷

Name of School	1919-1920 Enrollment	1920-1921 Enrollment	1921-1922 Enrollment
Anaconda Public Schools	61	20	88
Billings Public Schools		37	
Butte Public Schools	80	57	34
Custer County High School	24	71	
Deer Lodge Public Schools			15
Great Falls High Schools	22	59	
Glendive Public Schools			36
Havre Public Schools		22	
Klein High School	23		
Laurel Public Schools			44
Miles City Public Schools			78
Missoula Public Schools		34	6
Park County High School	24		
Powell County High School		30	
Thompson Falls Public Schools			24
Total	234	330	325

⁷Ibid., p. 29.

TABLE 3. ENROLLMENT IN PART-TIME TRADE OR INDUSTRIAL
SMITH-HUGHES SCHOOLS OR CLASSES 1919-1922⁸

Name of School	1919-1920 Enrollment	1920-1921 Enrollment	1921-1922 Enrollment
Butte High School	16		
Sweet Grass County High School			35
Total	16		35

1923-1924

Since 1917 practical industrial work which prepared for trade occupation had been given in approximately thirty high schools of Montana. The number of schools in which the work was given was limited by State appropriations. The last session of the State Legislature appropriated the sum of \$14,000 for each of the last two years. The Federal appropriation was \$34,666.52, or more than twice the State appropriation. In other words, during this two year period Federal Government had contributed \$2 for each \$1 contributed by the State.⁹ This made it possible to greatly extend the

⁸Ibid., p. 30.

⁹Eighteenth Biennial Report of the State Superintendent of Public Instruction of Montana, Independent Publishing Co., Helena, Montana. 1924. p. 48.

vocational work in Montana. For the year ending June 30, 1925, Montana received the sum of \$38,329.40¹⁰

During the school year 1924-25, nine Part-Time Trade or Industrial Smith-Hughes Schools were in operation with a total of 248 students. The only all day trade or industrial schools during the period were Flathead County High School, and Gallatin County High School, they had an enrollment of 41 students. Evening Trade or Industrial classes were held in seven schools with a total enrollment of 203.

1926-1930

There was general interest in vocational courses in every community where such courses were offered. The importance of making provision for the type of work needed by many boys and girls who are fitting themselves for certain vocations rather than for college courses was being more generally recognized.

For the past twelve years assistance had been given to miners, rail-road men, tractor operators, auto-mechanics, salesmen, engineers, workers in the beet industry, sheet metal workers, trained nurses, bookkeepers, foremen in mines and factories, and special trade work to the younger men in the high schools. These individuals had been reached through evening classes for adult workers, part-time schools for apprentices, and all-day schools for students preparing to

¹⁰Ibid., p. 48.

go into trades in the near future. During the year ending June 30, 1930, the program increased about 35 per cent over that of the previous year and prospects were that the year ending June 30, 1931, would show a considerable increase over the past year.¹¹

There were more than one hundred thousand gainfully employed in the trade and industrial field in Montana in 1930.¹² A large percentage of these people were young workers entering occupation. These workers were untrained and had to learn their trade by the "pick-up" or "trial and error" method. In many cases this meant that this system would result in young workers shifting about, seeking out a living as best they could. Many fall by the wayside and become juvenile delinquents. Even many of the older men were not properly adjusted to their jobs. With the rapid change taking place in the industrial society there was a constant need for readjustment and re-training of workers. This readjustment and re-training had to be done either by the employer or by the schools. Because of the need for better methods of readjustment and re-training the Smith-Hughes Act was passed.

It has been proven through study and experience that a program carried on jointly by the school, the employer,

¹¹Twenty-First Biennial Report of the State Superintendent of Public Instruction of Montana, Independent Publishing Co., Helena, Montana. 1930. p. 65.

¹²Ibid., p. 66.

and employee is far more successful than one sponsored by any one or two of the groups. The employer knows what he is unable to do. The instructor has been trained to teach this work. Through the co-operation of the three groups a sound program can be worked out.

In Montana, death alone removes from industry, yearly, from twelve to fifteen hundred trained workmen.¹³ A demand was thus created for skilled workmen, because these vacancies had to be filled. When proper training and vocational adjustments were considered, Montana had barely scratched the surface of this problem. The State owes an obligation to these workers and this obligation can be fulfilled by helping them to become better trained as well as skilled workmen.

While several of the high schools of the State were carrying on part-time trade and industrial programs together with vocational guidance, the most outstanding piece of work accomplished was by the Flathead County High School. A short description of the work follows:

In addition the usual vocational training system given in the Commercial, Agriculture and Home Economics departments. Flathead has for three years been attempting a direct type of training through a plan of part-time cooperative industrial education.

The boy goes to school in the morning, taking two or three subjects. In the afternoon he is on some job which he has chosen through guidance. For this work downtown he receives

¹³Ibid., p. 66.

school credit. One of his subjects at school is 'related work', related to the job he is doing. H. N. Kauffman, the high school instructor in Smith-Hughes Agriculture, acts as coordinator. He places the boys, supervises their work, grades them, and makes the necessary contacts with the business community. The plan has received Smith-Hughes indorsement.¹⁴

Each semester from twenty-five to forty boys are enrolled. The types of downtown work are given here, in the order of their attractiveness to the boys: Salesmen in clothing, grocery, shoe, and furniture stores and in garages; garage mechanics; electricians; radio repairing; type-setting; newspaper reporting; sheet-metal work; plumbing; bookkeeping; photography; cabinet making.

The aim of the plan was: to give practical vocational training to many of those who were not of the 'academic type' and who do not have college aspirations. Connected with this was a commendable amount of guidance, both before and after the boy undertook a particular job.

Many boys had enrolled in and stayed by this co-operative course who would likely have dropped school altogether. There was evidence to indicate that some boys have been caused to take a new interest in school work.¹⁵ Several employers have indicated that they expect to employ their boys on a permanent basis as soon as the school period is

¹⁴Ibid., p. 67.

¹⁵Ibid., p. 68.

over. Generally speaking, the business community has been made to take a large interest, and some responsibility, in the problem of vocational education.

CHAPTER V

TRADE AND INDUSTRIAL EDUCATION IN MONTANA

FROM 1930 TO 1954

During the period 1930 to 1954 very little was written about trade and industrial education in Montana. The Biennial Reports of the State Superintendent of public instruction have statistics available for most years, with the aid of this material, tables 4, 5 and 6 following were constructed. These tables give a good over all view of what happened in regard to enrollment in all day, part-time cooperative and evening trade extension classes.

There were six high schools offering part-time training in 1931. These were Billings, Custer County, Fergus County, Flathead County, Havre, and Powell County High School. Gallatin County High School and Helena offered classes under the all-day trade and industrial education.¹ But for some reason, probably due to unemployment at the beginning of the depression there were more enrolled in evening trade and extension classes in 1931 than for any other year on record. Ten schools had classes with an enrollment of 1,161. They were as follows:

¹Twenty-Second Biennial Report of the Superintendent of Public Instruction, State of Montana, State Publishing Co. State Printers, Helena, Montana. 1932. p. 103.

1. Anaconda High School	with	108	enrolled
2. Billings High School	with	31	enrolled
3. Butte High School	with	101	enrolled
4. Butte School of Mines	with	321	enrolled
5. Dawson Co. High School	with	125	enrolled
6. Helena High School w	with	210	enrolled
7. Lima High School	with	156	enrolled
8. Missoula City Schools	with	175	enrolled
9. Powell Co. High School	with	11	enrolled
10. Sidney High School	with	34	enrolled ²

This was the largest group enrolled in any one of three types of classes for any year through 1954 for which records are available.

The following tables will indicate there has been a notable increase in trade and industrial education in Montana since 1938 but the number taking this training has been very small compared to the number graduating from high school each year and the number employed in industry.

Tables 7 and 8 give a list of the schools having trade and industrial programs in 1954. They list all of the classes taught, the instructors, the subject, and the number of students enrolled.

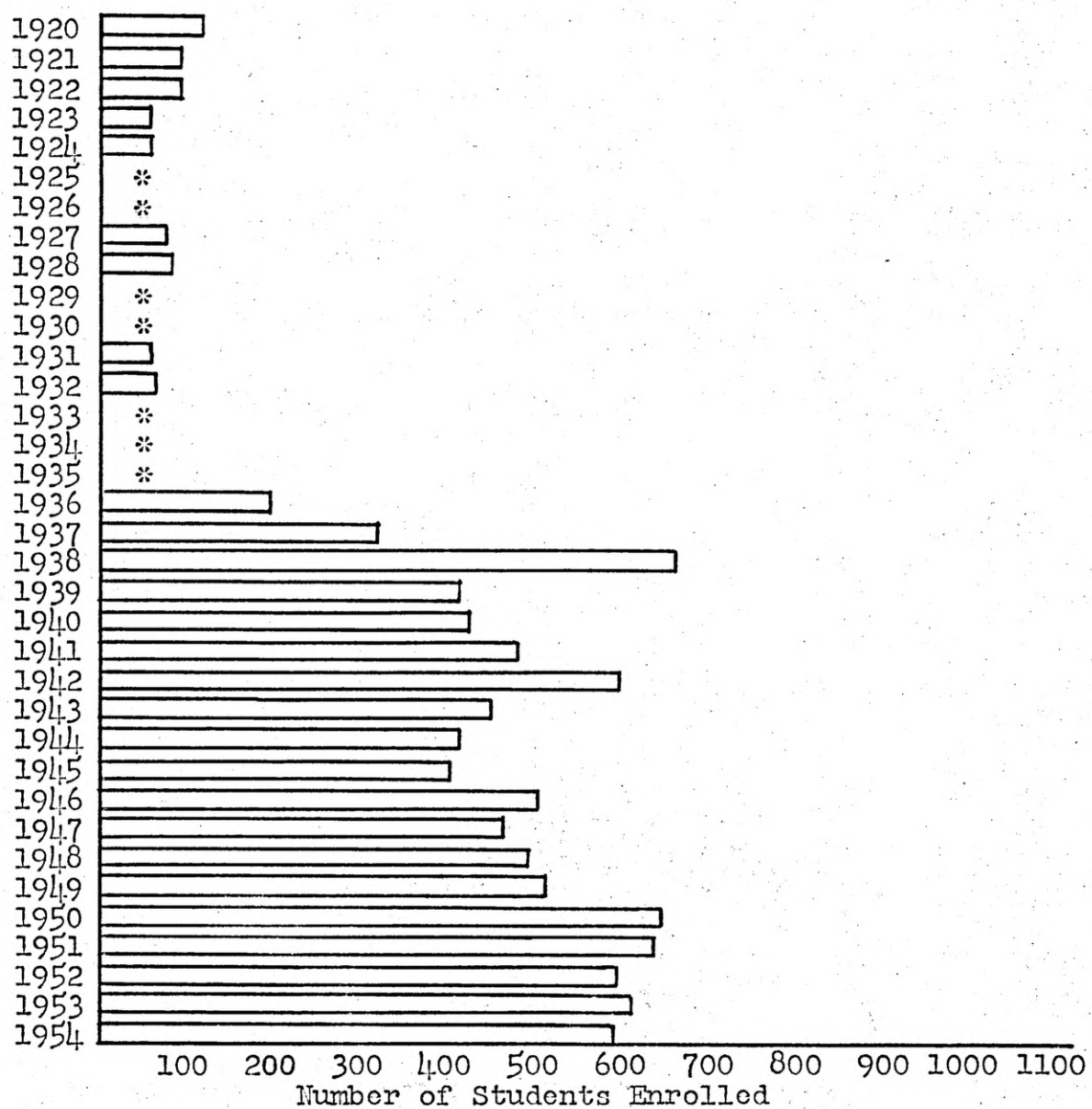
The day-trade and evening extension classes have increased somewhat progressively since 1936 as indicated by the tables. Part-time cooperative education has been decreasing. In 1955 it was reestablished under the department of distributive education under the direction of David J. Mais.³

²Biennial Report of the Superintendent of Public Instruction in Montana, Mc Kee Printing Co., Butte, Montana. 1954. p.42.

³Ibid., p. 43.

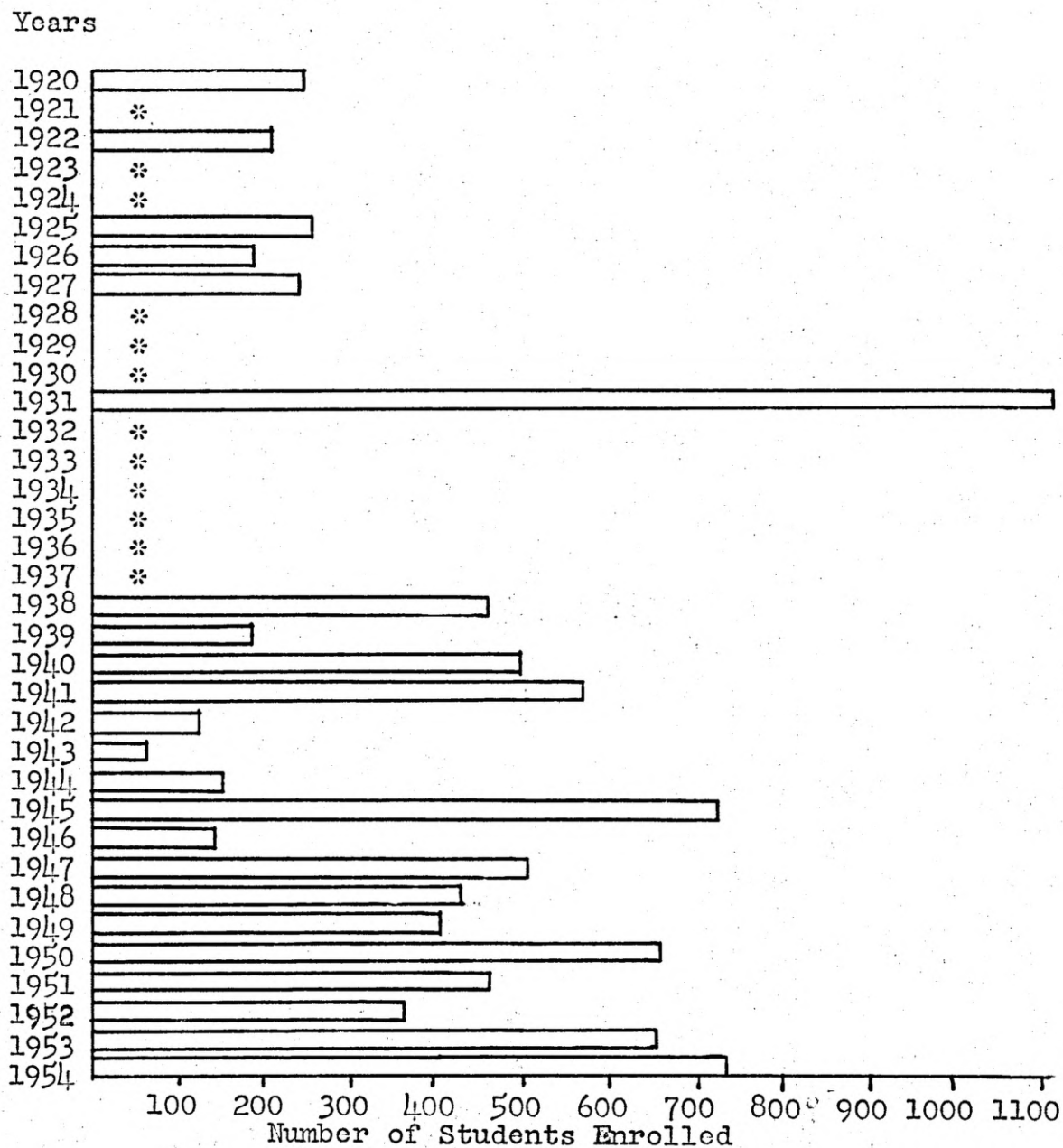
TABLE 4. STATE OF MONTANA ENROLLMENT IN TRADE AND INDUSTRIAL
EDUCATION DAY TRADE SCHOOLS 1920-1954

Years



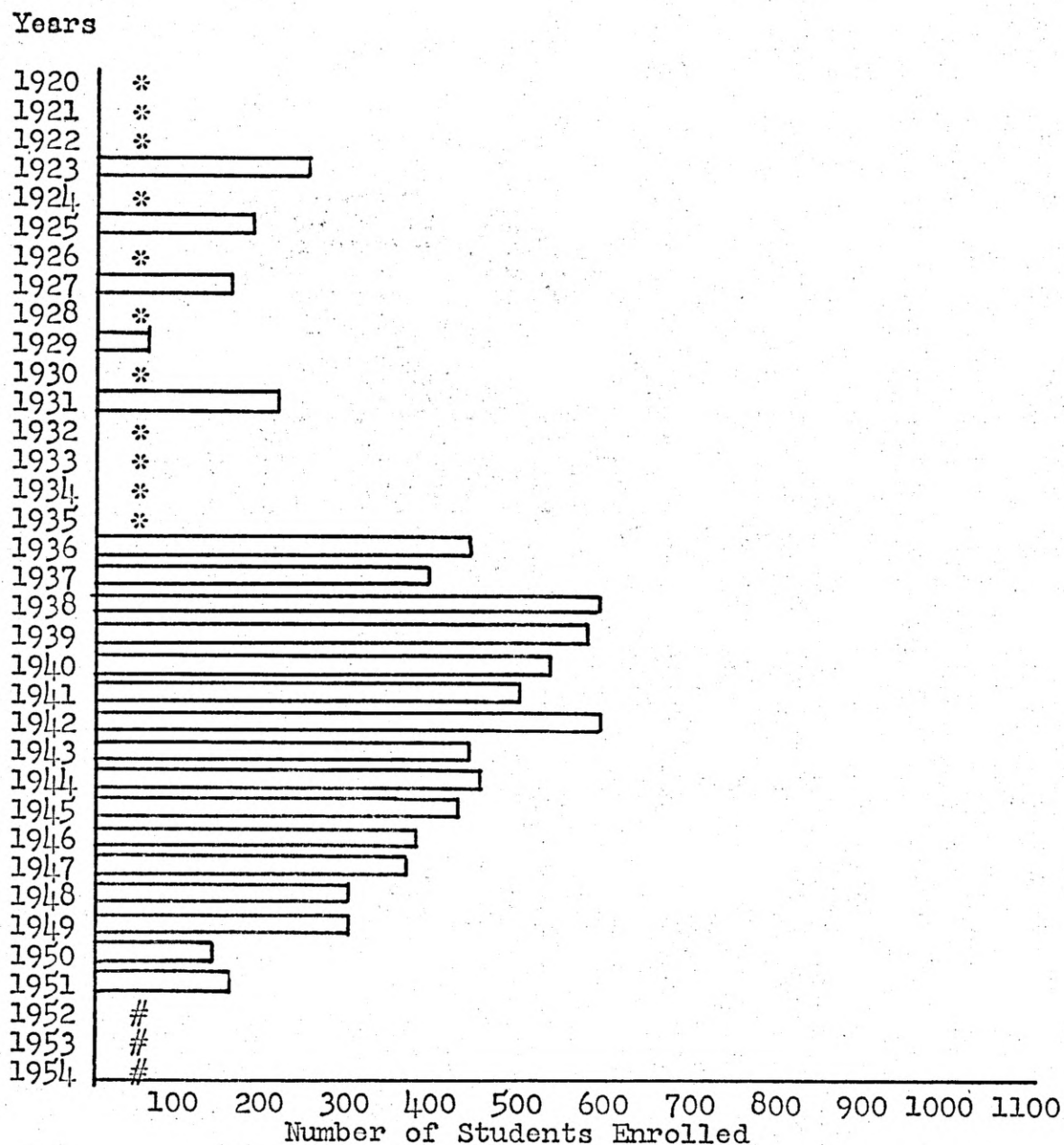
*Figures not available for these years.

TABLE 5. STATE OF MONTANA TRADE AND INDUSTRIAL EDUCATION
EVENING TRADE EXTENSION ENROLLMENT 1920-1954



*Figures not available for these years.

TABLES 6. STATE OF MONTANA TRADE AND INDUSTRIAL EDUCATION
PART-TIME COOPERATIVE ENROLLMENT 1920-1954



*Figures not available for these years.

#In 1952 the Part-Time Cooperative was transferred from the department of Trade and Industry to the department of Distributive Education.

TABLE 7. STATE OF MONTANA TRADE AND INDUSTRIAL EDUCATION DAY
TRADE ENROLLMENT BY SCHOOL AND SUBJECT 1954-1955³

School	Instructor	Subjects	En- roll- ment
1. Billings Sr. High	L. H. Ratzlaff	Auto-Mech.	34
2. Bigfork High	George E. Tomaskie	Auto-Mech.	11
3. Butte Public High	Melvin G. Cottrell	Auto-Mech.	33
Butte Public High	Clarence Thomas	Mach. Shop	13
Butte Public High	Emmet Keyser	Electricity	11
Butte Public High	Dave Keltz	Carpentry	12
4. Cut Bank High	Wm. R. Chambers	Auto-Mech.	25
5. Custer Co. High	R. W. Mikkelsen	Auto-Mech.	18
6. Flathead Co. High	W. E. Mc Culloch	Auto-Mech.	42
7. Gallatin Co. High	G. D. Donald	Auto-Mech.	37
8. Glasgow High	George Hallett	Auto-Mech.	41
9. Great Falls High	C. B. Perry	Mach. Shop	7
Great Falls High	E. A. Parsons	Radio	9
10. Havre High	Fred Ritter	Auto-Mech.	23
11. Helena High	Giles Russell	Supervision	
Helena High	Giles Russell	Welding	23
Helena High	Wm. Korizek	Aircraft Eng.	12
		& Farm Equip.	12
Helena High	Clarence Anthony	Aircraft Mech.	13
		& Farm Equip.	11
Helena High	Anthony Virostko	Auto-Mech.	38
12. Laurel High	A. F. Smith	Auto-Mech.	36
13. Northern	Conrad Elnes	Mach. Shop	15
Mont. College			
Northern	Lester O. Midge	Auto-Mech.	20
Mont. College			
Northern	John W. Goebel	Auto-Mech.	25
Mont. College			
14. Park Co. High	Robert Brookie	Auto-Mech.	16
15. Sunburst High	Howard Love	Auto-Mech.	14
16. Shelby High	Robert McAlister	Auto-Mech.	18
		Total	569

³Reports Composed by W. Lyle Roesler, State Supervisor
of Trade and Industrial Education, Helena, Montana. 1955.

TABLE 8. STATE OF MONTANA TRADE AND INDUSTRIAL EDUCATION EVENING TRADE EXTENSION ENROLLMENT BY SCHOOL AND SUBJECT ⁴
1954-1955

School	Teacher	Occupation	Enrollment
Anaconda High School Butte Public High School	Fred O. Brown	Plumbing	13
	Clarence Thomas	Machinists	12
	Dave Keltz	Machinists	*11
	Dave Keltz	Carpentry	12
	Melvin Cottrell	Auto Mech.	16
	William Flynn	Welding	23
	Harry Nicholls	Welding	13
	Jack Wulf	Plumbing	10
	Vernon Rustvold	Carpentry	30
	Robert Lund	Carpentry	*30
Great Falls High School	Earl McKay	Auto Mech.	15
	Edmund Parsons	Electrician	24
	Eugene Bunker	Electrician	17
	E. B. Perry	Machinists	12
	Art Line	Painting&Paper Hanging	9
	Edward Adolphson	Plumbing	24
	George Kincaid	Welding	28
	John Savage	Sheet Metal	13
	Giles Russell	Welding	20
	Eugene Dunlop	Welding	*20
Helena High School	William Korizek	Welding	19
	Eugene Dunlop	Machine Shop	9
	George Larson	Machine Shop	10
	Grant Crossman	Carpentry	18
	Halver M. Skinner	Welding	10
	Charles Bowman	Welding	8
	L. F. Hare	Welding	13
	A. H. Bateman	School Bus Driver	22
Montana State College			
Northern Mont. College	L. O. Thompson	Custodial Tr.	48
		Total	448

* Counted in other classes

⁴Ibid.,

Tables 4 and 5 show the enrollment of high school pupils in trade and industrial education from 1920 to 1954. Table number 6 shows enrollment in evening classes for people out of school. The name of the school, the subject taught and number enrolled in each class for day-trade and evening trade extension classes in 1954 is shown in tables 7 and 8.

The following Chapter will deal with recommendations for finding ways to establish a trade and industrial program that will do a better job of filling, the unproductive gap, in the lives of young people while they are learning to earn a living, and before they find a job that provides them with the economic security they need.

CHAPTER VI

SUMMARY AND RECOMMENDATIONS

Summary

The purpose of this study was to bring together information on the development of trade and industrial education in Montana. The State Reform School at Miles City, founded in 1894, and Montana State College, founded in 1893, were the pioneering institutions for trade and industrial education in Montana. Under the Morrill Acts of 1861 and 1890 land and money were appropriated to advance this type of training in the State College.

In 1900 manual training was introduced in the Helena public schools, other schools soon followed. Billings Polytechnic Institute founded in 1912 also stressed industrial training.

The passing of the Smith-Hughes act in 1917 provided for promotion of trade and industrial education; cooperation with the states in the preparation of teachers of vocational subjects; and appropriated money and regulated its expenditure. Since this time many schools and classes have been established in Montana under the Smith-Hughes program. The

greatest difficulty has been in the schools meeting the requirements and appropriating money to match federal funds.

The Montana Plan for trade and industrial education has been to have it a part of the total education program. Vocational education should be life adjustment education-training students for jobs of their own choosing upon leaving high school. About 60% of the students that graduate from high school should get job training for that is the proportion of those who enter vocations upon graduation rather than college for professional training.

Vocational training should be skills and attitudes instruction, preparing students for some job competency. Part of the program is designed for adults who wish to better train for jobs in which they are now employed or to transfer to jobs for which they have no skills. Teachers in vocational instruction are trained not only in the subject matter taught but must have several years of business or on-the-job experience to qualify them in the area in which they will teach. Teacher-coordinators in the work-study program for the distributive occupations, for example, are required to have two years' recent experience in business as well as teaching experience.

Recommendations

Under the present set-up, the larger secondary schools in Montana are taking advantage of the State Department's assistance in establishing vocational training courses for high school students. However, only 48% of our 177 high schools have vocational courses now. There is a need for more reimbursed vocational education departments in more of our high schools.¹ The smaller schools are unable to equip the shops and finance their part of the program. This condition could be eliminated by more federal aid and a better distribution of war surplus property.

High School trade and industrial education helps to bridge the gap between employment and unemployment and serves to cut down waste on the part of both employer and employee, but it does not provide a complete vocational training course in the high school. Also, it must be remembered that the programs now given in the high schools are really only of the pre-apprenticeship training type and do not provide for turning our skilled workers.

Survey Indicates Needs. A survey conducted by the State Department on vocational training points up the needs for further training in high schools, but more particularly for

¹Toole, Jack. "Montana Needs A Vocational Training School," Montana Education, Volume XXVII, Number 3. Nov. 1950.

an advanced type of training at one of the institutions. The survey is based on a questionnaire sent to graduates of the class of '50, and was given primarily to get the trends in plans of high school graduates along vocational lines.

It is interesting to note that 1996 or 79.80% of the respondents answered "yes" to the question: If you could attend a vocational school or college in this state to prepare for entrance into a vocation or trade, would you attend next year or the year following?²

Training Centralized. Subject interests of this group were varied. 418 were interested in secretarial training, 179 in advertising, 63 in building trades-plumbing, plastering, carpentry, etc.-132 in commercial art, 127 in draftsmanship, 196 in diesel, 149 in machinists skills, 244 in photography, and 237 in mechanics trades. Other interests include hairdressing, librarianships, nursing, radio service, transportation, cooking and baking.³

Of this same group, 78.52% stated if they were entering college this fall and were interested in the following subject fields: Agriculture, 80; Business, 76; Business Administration, 110; Commercial, 48; Home Economics, 51; Liberal Arts, 59; Music, 50; Nursing, 151; Physical Education, 50; Secretarial Training, 69; and Teaching 54.⁴

²Ibid., p. 7.

³Ibid., p. 8.

⁴Ibid., p. 8.

When asked the length of time they would prefer to receive this vocational training, the majority favored at least nine months. The 42.53% of those answering were strictly vocational minded and did not wish liberal arts courses in conjunction with the program. It was also interesting to note that 53.56% of this group would be able to finance board and room for themselves while attending.⁵

The survey indicated that there were several thousand young men and women in Montana that would be willing to take advantage of training along vocational lines if offered at one of the already existing units of the University system. Montana should establish a good vocational school for high school graduates. They would be preparing for a trade that would bring them greater personal satisfaction, and employer-employee relations would certainly be improved. Such training would provide business and industry with trained individual who would be a credit to the employer and at the same time improve the standards of the trade and industry program of the state. Employers are not only interested in securing skilled workers, they also want employees with right attitudes who are trained for responsibility.

⁵Ibid., p. 9.

BIBLIOGRAPHY

Books

Collier's Encyclopedia. P. F. Colliers and Sons, Corwell
Colliers Publishing Co., New York. 1952. p. 108.

Laws, Resolutions and Memorials of the State of Montana:
Passed by the Fifteenth Regular Session of the Legis-
lation Assembly; Published by the State Publishing
Co., 1917.

Laws, Resolutions and Memorials of the State of Montana:
Passed by the Sixteenth Regular Session of the Legis-
lation Assembly; Published by the State Publishing
Co., 1919.

Prosser and Allen. Vocational Education in a Democracy, The
Century Co., New York. 1925. p. 135.

Documentary References

Third Biennial Report of the Superintendent of Public In-
struction, State of Montana, State Publishing Co.
State Printers, Helena, Montana. 1895. pp. 235-238.

Ninth Biennial Report of the Superintendent of Public In-
struction, State of Montana, Independent Publishing
Co., Helena, Montana. 1905-6. pp. 26-27.

Eleventh Biennial Report of the Superintendent of Public
Instruction, State of Montana, Independent Publishing
Co., Helena, Montana. 1910. pp. 70-71.

Twelfth Biennial Report of the State Superintendent of Pub-
lic Instruction, State of Montana, Independent Pub-
lishing Co., Helena, Montana. 1912.

Fifteenth Biennial Report of the State Superintendent of
Public Instruction of Montana, Independent Publishing
Co., Helena, Montana. 1918. p. 73.

Sixteenth Biennial Report of the State Superintendent of
Public Instruction of Montana, Independent Publishing
Co., Helena, Montana. 1920. p. 73.

Seventeenth Biennial Report of the State Superintendent of Public Instruction of Montana, Independent Publishing Co., Helena, Montana. 1922. p. 28.

Twenty-First Biennial Report of the State Superintendent of Public Instruction of Montana, Independent Publishing Co., Helena, Montana. 1930. p. 65.

Twenty-Second Biennial Report of the Superintendent of Public Instruction, State of Montana, State Publishing Co., State Printers, Helena, Montana. 1932. p. 103.

Biennial Report of the Superintendent of Public Instruction in Montana, Mc Kee Printing Co., Butte, Montana. 1954. p. 42.

Magazines and Periodicals

Auchmuty, Richard T., "The Need of Trade Schools," The Century Volume XI, 1886. pp. 37-38.

Clark Willis W. "Vocational Guidance for Junior High School;" Educational Bulletin No. 15. Published by California Test Bureau, 5916 Hollywood Blvd., Los Angeles 28, California. p. 1.

Reid, James, "The College Agriculture and Mechanic Arts," Rocky Mountain Magazine; Vol. I, No. 3. November 1900. p. 166.

Reports Composed by W. Lyle Roesler, State Supervisor of Trade and Industrial Education, Helena, Montana. 1955.

"State of Montana Plans for Vocational Education," 1919-1920. Department of Public Instruction, Helena, Montana. July. 1919. pp. 7-8.

Toole, Jack, "Montana Needs A Vocational Training School," Montana Education, Volume XXVII Number 3. Nov. 1950.

"Vocational Education Bulletin No. I." Revised Edition; United States Government Printing Office: Washington, D. C.: 1937.