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A review of the theses on Montana educational problems

Harry M. Ross

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A REVIEW OF THE THESSES ON
MONTANA EDUCATIONAL PROBLEMS

by

Harry M. Ross
B. A. Montana State University

Presented in Partial Fulfillment
of the Requirements for the Degree of
Master of Arts
Montana State University
1939

Freeman Daughters
Chairman of Examinining Committee

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Chairman of Graduate Committee

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CHAPTER ONE

INTRODUCTION
INTRODUCTION

During the summer of 1928, in the class of Research and Thesis Writing, which was taught by Dr. Ames, a discussion of thesis topics was held. A review of the theses that had been written on Montana Educational Problems was considered, and it was thought that it would be a worthwhile contribution.

This problem was selected with the idea in mind of having something that would be useful to graduate students in the School of Education. It will be an easy matter to find out what problems have been covered, and a resume of what each thesis contains. If a more detailed account is wanted than that contained in the digest, the original may be consulted, but considerable time will be saved by not having to search through the entire collection of theses to find the particular one that applies to the subject in which the reader is interested.

Every thesis written pertaining to Montana Educational problems by students in the University of Montana has been reviewed and summarized. In addition the following schools were contacted: University of Washington, University of Oregon, Stanford University, University of Idaho, Denver University, Colorado State Teachers' College, University of Wyoming, University of North Dakota, University of Minnesota, University of Wisconsin, and Columbia University. A careful
study was also made of the bibliographies issued by the United States Bureau of Education for any additional theses which may have been written on Montana problems. Every effort has been exerted to discover all problems which have been written on in the field of educational research that have any bearing on education in Montana.

There was very little research in education prior to 1915. Therefore, this survey does not go beyond that date, but all treatises from 1915 to 1938 have been included, and if anything has been omitted, it is because it wasn't found in the sources consulted.

This work has been divided so that theses dealing with each subject have been grouped together. The grouping is as follows: achievement and intelligence, educational survey, finance, journalism, health, county superintendent, teaching, student finance and history.

Each thesis has been listed alphabetically according to the author, with the year of completion and number of pages of manuscript.

The plan of the writer has been to make this work as usable as possible. There is some very valuable material to be found in the works of the graduate students of the School of Education. An effort should be made to make this available to the teachers of Montana. The work is now stored on the top floor of the library, and is seen only by students.
engaged in graduate study. There are theses which have not been removed from the shelf since they were placed there, except by a janitor to remove the dust. Some plan should be worked out whereby the most pertinent ones could be published in the Montana Education.

The writer hopes that the effort expended in working out this treatise shall not have been in vain. It is also hoped that the treatise may be valuable to students of the future in making it possible to get a picture of the field covered without reading all the theses.

There were two theses from Minnesota, two, from Stanford, and one from Washington. If there are more than these, and they were overlooked, it is regretted, but all available sources were carefully checked, and these are all that appear to have been written.
CHAPTER TWO

ACHIEVEMENT AND INTELLIGENCE
THE VARIABILITY IN ACHIEVEMENT OF GRAMMER GRADE PUPILS IN CERTAIN SUBJECTS.

SARAH. D BLACK - 1933. 78 pp.

The problem was to find out how much variability there is in composition, spelling, reading, language, and grammar in each individual pupil, and in each of the two classes tested, as revealed by twenty-six specific tests.

The one hundred seventeen pupils tested were in the seventh and eighth grades at Dillon. These children, from the first through the eighth grade, had been under the supervision of teachers with at least an A. B. degree.

One intelligence test, Kuhlman-Anderson Grade VII to VIII, was given. Five tests in composition, four, in spelling, nine, in reading, six, in language, and two, in grammar were given, or in all a total of twenty-six tests. The tests were all among the well known standard tests for the subjects. They were first checked by the student teacher and then re-checked by the writer. No test was repeated. All tests were for the purpose of testing as many phases of English ability as possible.

Summary and conclusion. As a result of this investigation, it would seem that pupils vary to a considerable extent in tests that purport to test identical ability, as for instance, spelling, or knowledge of technical grammar, unless
they belong to the group whose I. Q. is much above or below average, or unless they have a particular aptitude for a certain subject. Even then the results of any one test may show a variation of more than three full grades with the results of another test purporting to test the same ability. The variation shown by comparing the results of the tests purporting to test identical ability with the pupil whose I. Q. was average, was usually from three to four full grades.

In the subject such as composition, reading and language usage where different abilities were tested, it was noticeable that those having an I. Q. much below average varied less than they did on the tests that were identical; those much above the average I. Q. varied more, and those of average I. Q. varied about as they did on supposedly identical tests.

As a whole, seventh grade varied from standard less than the eighth grade. Composition was the subject in both grades where the pupils as a whole varied lowest from standard. Reading showed the least variation from standard. Neither class was at grade according to the medians for the twenty-six tests. Of the eighth grade pupils, about one third ranked somewhere in the ninth, tenth or eleventh grades; about one third were eighth graders; about one third were below eighth grade standard according to the median for the twenty-six tests taken. Of the seventh grade pupils, about
one fourth ranked as ninth, tenth or eleventh graders; about one fourth, as seventh graders, and about one fourth, below seventh grade.

A great deal still needs to be done to determine the exact cause or causes of the variation in individual achievement in tests, and just how significant that variation is in the teaching processes. An investigation should be carried on for several years to prove the reliability of those tests purporting to test identical abilities or aptitudes with the same groups of children as well as those testing different abilities.
Emmert attempted to discover if there was any difference in the achievement of rural and urban freshmen. He defined rural as the one-room, one-teacher school, and urban as any other. An attempt was made to eliminate as many of the variable factors as possible by pairing students of the same I. Q., C. A., and sex. There were still factors of attitude and home ownership, but Emmert felt that, since the selection was at random, these factors would counter balance one another.

The conclusion was that, as far as functions tested in this study, the rural schools of Fergus, Gallatin and Broadwater Counties are apparently on a par with the urban schools. There is no justification in feeling that either one group or the other is superior in achievement.

Emmert also felt that, keeping in mind the limitations of the study, general conclusions for the state might be made. Pupils with equal intellectual ability will not vary greatly in achievement regardless of whether they were graduated from a one-room school or the larger city school. There may
be a slight difference in some fields, but it is not great enough to say that any particular group is superior.

These findings were different from Reinoehl's study of instruction in rural schools of Montana made in 1921, but he failed to take into consideration the differences in intelligence.
THE INTELLIGENCE AND ACHIEVEMENT OF BLACKFEET INDIANS.

DOUGLAS GOLD - 1934. 75 pp.

This study compared the ability and achievement of the Blackfeet Indians with whites. Gold had wanted to do this for some time, but was afraid of the effect it might have on the relationship existing between the two groups. It was finally decided that, since the three men in charge - namely Sellers, Principal of the Blackfeet Boarding School, Stone, Inspector of Livestock, and the author - were leaving, this study should be made while the records were still available.

The traits and characteristics of early Blackfeet as evaluated by traders, trappers, and explorers were: the Blackfeet occupied the most cherished lands and exiled other tribes from them; they were the most feared and dreaded of all Indian tribes, and they were capable of wide variation of mood and manner.

Traits and characteristics of early Blackfeet as exhibited in early Indian schools were taken from a questionnaire sent to successful business men who had lived among them over a period of years. The results are summed up as follows:

1. One hundred per cent of replies agree that full blood Blackfeet Indians are not as intelligent as white people.

2. Ninety per cent of the replies agree that mixed blood Blackfeet Indians are not as intelligent as white people.
3. Ninety-six per cent of the replies agree that mixed blood Blackfeet Indians are more intelligent than full bloods. 1

Estimates of Blackfeet intelligence by sixteen teachers teaching them was in almost perfect agreement with the business men's estimate.

The results of the intelligence tests were as follows: the greater the Indian blood the less intelligence exists; girls were brighter than boys in all divisions except quarter bloods, where very little difference was shown; Blackfeet children did better on problems dealing with their environment. In the lower grades they did better than whites of the same grade, not of the same age. The upper grades did not do as well.

From achievement tests the following conclusions were drawn: Indians showed lower achievement than whites in spelling, arithmetic, and reading. They showed achievement approximately in negative correlation to the degree of Indian blood in spelling, arithmetic and reading. They showed favorably in comparison with white children in penmanship.

Experience has shown that Blackfeet Indians become easy prey to white people who are attracted by their property; that the Federal Government feels the need of providing constant protection for them; and that they have not learned the elemental lesson of provision for the future. 2

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2 Ibid., p. 74.
The problem considered in this thesis dealt with the intelligence of Indians in the Federal, State and Mission schools in Montana. The intelligence of Indian children was compared with that of white children. In solving the problem, several questions were asked, the answers to be taken from intelligence tests given in schools on the reservations enrolling Indian children. A questionnaire was also used which was answered in part by the children, and in part by the teachers.

The conclusions drawn compared favorably with a study made in 1925 by Thomas R. Garth on the intelligence of full blood Indians, as reported in the Journal of Applied Psychology, December 1, 1925. I. Q.'s. were lower for Indians than whites. Full bloods showed lower intelligence than mixed bloods. No noticeable difference in intelligence of sexes was found. They did better with tests dealing with nature and primitive life. Fifty per cent of Indian children were retarded academically. Elimination was greater for Indian children than for whites between the grades of four and eight. Indians at white schools ranked higher in intelligence than those in the Indian schools. Seventy nine per cent in the upper grades and high school planned to continue their education. Housework and farming were the most frequent
occupational choices of Indians. Mathematics, history, and social science were the subjects best liked by Indians. Many Indians were more advanced in their school grade than intelligence would warrant. The various tribes showed marked differences in median intelligence quotients.
The study of this problem has been undertaken for the purpose of discovering the differences, if any, existing in the intelligence and achievement of the Salish Indians as compared with the white people with whom they are associated. 1

Tests and measurements were used to establish facts. Many letters were used which form a considerable part of the information. The complete social, historical, and economic background of the Salish tribe was reviewed. This background accounts for certain characteristics which the Salish now have.

The techniques used were history, library, interview, measurement, letters, case study and the questionnaire.

From this study the following conclusions were drawn:

1. The Salish Indians were classed by early explorers and leaders as the 'best Indians in the mountains'.

2. The Salish Indians were the best farmers found by the early white men.

3. The Salish Indians appeared to be one of the most peaceable and contented tribes.

4. The Salish were the most eager for the white man's religious culture.

5. People who knew these Indians very well classed them as of less intelligence than the whites, with their intelligence rather definitely correlated negatively to their degree of Indian blood.

6. The estimates of business and professional people of the intelligence of the brightest Indians rank them as of the average white man's intelligence. The average Indian was rated by those professional and business people as 80 to 90 on the basis of 100 for the average white. The full bloods, who were rated a little lower than the average Indian, were placed between 75 and 90.

7. Intelligence tests bear out the theory that Indian children are not as intelligent as white children, and that their intelligence is correlated to a marked degree negatively to their degree of Indian blood, their median being: one half, 89, three eighths, 87, two eighths, 91, one eighth, 97, a composite score of all Indians, 93, and whites, 100.

8. Grade for grade, the Salish Indian children are but little below the white children in their school work, with the degree of Indian blood again showing definitely a negative correlation.

9. Grade for age, the Indian pupils are one year, and in some grades more, older than the white children.

10. The seemingly close correlation between the white and Indian children does not exist for the reason that white children are competing with Indian children a year more mature than themselves.

11. The average Salish Indian is not a disciplinary problem in the schools.

12. The fact that very few full blood children are found on the Flathead Reservation leads one to conclude that the tribe is being rapidly assimilated by the white population.

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2 Bessie Young Marble, The Intelligence and Achievement of White and Salish Indian Children (Master's Thesis) 1937), p. 56.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
O'Dea divided this report into two parts. The first part dealt with the intelligence of students in the Catholic High Schools of Montana, and the second part dealt with the intelligence of students in the Catholic Elementary Schools of Montana.

The material was secured by giving the Otis Self-Administering Test of Mental Ability, Form A, to the students in the Catholic schools of Montana. O'Dea supervised the giving and correcting of these tests, and was very careful to see that the directions for giving and scoring were followed to the letter, thus eliminating as much as possible, any error in results that might occur from faulty administration of the tests.

This study was carried on in a manner very similar to one made by Book, director of the psychological laboratory of Indiana State University,\(^1\) and one made by Colvin and McPhail of the school of education of Brown University at

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the request of the governor of Massachusetts, relative to the possibilities of higher public education in that state.

The main purpose of the investigation was to determine as nearly as possible, the general level of intelligence of the pupils in the Catholic schools of the State of Montana. In addition, the author attempted to answer as accurately as possible, the following questions which apply strictly to Catholic High School students:

1. Are students suitable college material?
2. Number of students who wish to continue education.
3. Type of schools students plan to attend.
4. Do students differ among themselves in intelligence?
5. What effect has age on intelligence?
6. Correlations between intelligence scores and teacher ratings.
7. Relation between courses and subjects liked best and least, and median intelligence scores.
8. Variation between children whose parents pursue different occupations.
9. Variation according to economic status.
10. The influence of nationality.
11. Size of family any index.
12. Connection between absence and tardiness and mental ability.

From her study, O'Dea came to the following conclusions,
which have been briefed for this report:

The general level of intelligence of students enrolled in the Catholic schools of Montana is lower than the level of intelligence of the students in the public schools of the east. Over seventy per cent planned to enter higher institutions, and of this group only twenty-nine per cent was assured of success, twenty-five per cent will succeed if they work hard, twenty-seven per cent cannot meet the requirements of the ordinary student; and nineteen per cent should not even be allowed to enter college. It was also shown that the ones planning to enter college were better equipped mentally than those who did not intend to go to school. The greatest number planned to enter a liberal arts college. Most of the girls were going to Normal School. The group planning to attend a technical school had a higher median intelligence than any other group. About three fourths had decided upon their life occupation. Sixty-seven per cent planned to enter the professions. These were intellectually superior to those who planned to follow other careers.

The general tendency of the group was to indicate an

Other investigations since show that vocational choices of junior and senior high school students have little reliability.
increase of intelligence with the increase in the father's income.

Children whose parents were born in the United States were intellectually superior to the children of parents, one or both of whom, are foreign born.

The author found practically the same condition existing in the grammar grades as existed in the high school.

From this study, O'Dea concluded that the Montana Catholic schools should enrich their curriculum, and that vocational guidance was absolutely necessary.
THE INTELLIGENCE OF MONTANA HIGH SCHOOL JUNIORS.


In this study, nine hundred and thirty-seven juniors enrolled in thirty high schools were used. The original data were secured in 1925. Daughters and Ames, with the cooperation of thirty high schools, gave intelligence tests to the juniors enrolled. The tests were scored, and from these results this thesis was written. An attempt was made to follow these students to determine the value of high school intentions.

No recommendations were made. The study was made only to discover facts concerning the intelligence of Montana juniors in relation to mental, social, and economic factors. Where findings varied from what others had found, an attempt was made to explain the variation.

From this study the following conclusions were derived:
The boys had a higher median I. Q. than the girls.
The youngest student had the highest intelligence score.
Median I. Q. decreased with increase in age.
The general course was most frequently offered in the schools studied. The students pursuing the classical course had the highest median I. Q.
Boys liked science and mathematics, while girls liked English and commercial best.
Students not planning to graduate from high school had an I. Q.
six points below the state median. Half had no definite plans and none were from professional homes.

Chances for graduation were greater in the small schools. One half of the students planned on going to work upon completion of their high school course. One third did not know what they would do.

Seventy per cent of the students planned to go on to school, but about one third of them planned on going to work first. One third of the students planned to attend a University.

One fifth planned to enter the University of Montana. Three fourths had decided on an ultimate life occupation. The students selecting an occupation had an I. Q. above the average, and those not, were below.

More than one half had been born in Montana. The students born in Montana had an I. Q. above the state average. More mothers of students were born in Montana than fathers. One third of the fathers were engaged in agricultural pursuits. The median I. Q. of children raised on the farm was the same as the state median.

About ninety-five per cent of the juniors completed the high school course. Those who completed had a higher median I. Q. than those students who had planned to graduate from high school.

Subsequent studies, as well as this study, showed the great unreliability of this. See last conclusion after eight years had elapsed.
One half of the students attended school beyond high school, and one tenth were graduated. One per cent did graduate work.

One seventh entered the occupation they expressed intentions of entering.
CHAPTER THREE

EDUCATIONAL SURVEYS
This survey was divided into three parts, mental, educational, and social.

The mental part dealt with comparisons of the mental status in relation to educational achievement. It also showed the pupils' plans for additional schooling, choice of studies, vocations and avocations, birthplaces of themselves and parents, their fathers' occupation and income, their mothers' pre-marriage occupation, home conditions, both economic and social, size of families, sexes, their teachers' estimate of their native ability, scholarship, deportment and application, the number of schools attended, grades repeated, and other factors affecting their lives.

The educational part was devoted to a discussion of the educational facilities of the county.

A study was made of the social significance of the choice of studies, plans for higher education, the social status of the parents, the tendency of parents to rent and own homes in proportion to their incomes.

In comparing the I. Q.'s. of different types of parentage, the result was found to agree with similar comparisons made previously. There was not enough difference to be significant.
In the income groups, those whose parents received the largest incomes were the ones with the highest I. Q.'s. Children of professional people topped the list, with laborors at the bottom. The factors entering into this are physical, economic, environmental, and educational.

The mental status and educational achievements of children coming from owned and rented homes was found to be slightly in favor of the former. This is explained that by being more economically independent, the majority possessed superior traits which allowed them to acquire property and positions less attainable by the less economically dependent parents.

Thirteen per cent of the students studied had no musical instrument in their homes. With the exception of these, a variety of instruments was available for the children's instruction.

The religious preference was Protestant, first, Catholic, second, and Jewish, third. Sixty eight per cent were Protestant, sixteen per cent Catholic, four per cent Jewish, and thirteen per cent expressed no religious preference.

The children attending the different churches if properly instructed, have it in their power to, as citizens of tomorrow, practice religious toleration of those having different beliefs, and in so doing, promote the interests of society as a whole. This question should be given careful consideration by the church in its teachings of young people as it
is only through proper religious education that the
elements charged with creating animosity between
different creeds can be abolished for a sounder
spiritual appreciation and understanding by all. 1

1 Howard A. Gray, A Mental, Educational, and Social
Survey of the School Children of Wheatland County, Montana,
A TESTING SURVEY IN THIRD CLASS DISTRICTS,
GALLATIN COUNTY, MONTANA.

LEOKA M. HAPNER - 1928. 77 pp.

This study was carried on in the third class districts of Gallatin County, Montana, for the purpose of finding the intelligence status and achievement status in reading and arithmetic of the pupils in the fifth, sixth, seventh, and eighth grades.

The testing was in the one-room schools, and in five village schools of two or more rooms. In all, a total of five hundred and thirty children were tested.

The tests used were Detroit Alpha Intelligence Test, Form M, Monroe's Standardized General Survey Arithmetic Scales.

Hapner worked out tables and figures for the correlation of each achievement test by grades, with the intelligence test. There is a comparison of the nation wide medians and the Gallatin County medians. There is also a summary sheet of intelligence and achievement in reading and arithmetic for each of the four grades.

It was found that the per cent of bright pupils in the fifth and seventh grades exceeded the nation wide survey percentage in these groups. In the sixth and eighth grades this condition was reversed, and the per cent of bright pupils in the nation wide survey exceeded the Gallatin County
students. Taking the entire group tested, the percentages of bright and dull pupils were very nearly the same as found in the nationwide survey.

It was suggested that a testing program should be begun early in the school year 1928-29 which should include a re-testing in order to check the results already obtained.

Diagnostic tests should be given in the subjects of reading and arithmetic in order to discover each pupil's difficulties.

Pupils who are mentally over-age for their grades should be allowed and encouraged to advance as rapidly as possible from grade to grade until they reach a grade of work better suited to their mental needs.

Pupils who are chronologically much over-age for their grades should be given such help as will enable them to advance.

This thesis greatly stressed both mental over-age and chronological over-age, and Hapner gave what she thought should be done to aid in these situations.
A COMPARATIVE SURVEY OF MONTANA HIGH SCHOOLS.


The following report represents an investigation of the secondary schools of Montana. An attempt has been made to gather data which would be useful to the school men of the state. 1

The history extends over a period of approximately fifty years. Butte was the first city to have a regular four year high school. One student was graduated in 1886. Dillon graduated a class in 1888. In five years four more schools had graduating classes. Since that time more schools have been added to the list every year. There were two hundred and three in 1920.

From 1910 to 1915 witnessed the most rapid growth in the number of high school students, and the five year period from 1915 to 1920 witnessed the greatest increase in the number of high schools.

The strenuous efforts made by the communities to provide ample means for securing a secondary school education is impressive. It seems every community was determined to have the best school in the state.

The Smith-Hughes and the Smith-Lever Acts gave impetus to the high school. Normal training departments had a steady increase. In 1919 there were nineteen schools with

The value of all high school property in 1921 was $12,548,000. The bonded indebtedness was $4,450,000, and the amount raised for operation was $1,815,743. The average per capita cost for all students was $198. The highest was $600, and the lowest $74.

The enrollment in the two hundred and three high schools was 14,694. There were 892 teachers employed. There were 139,227 volumes in the libraries.

The number of courses offered varied from five to eleven. From this study, there seemed to be no correlation between the per capita cost and the number of courses offered.

There were no exact criteria for the holding power. This varied greatly in the different schools.

The per capita cost was too large. A community should educate its students for $150 per year.

County high schools drew students from a wider area, and tended to serve the entire county.

The cost of equipment varied greatly and there was no rhyme or reason for the variation.

The teaching load in the large school was four and two fifths, in the county high schools four and four fifths, and in the smaller schools five and five sixths classes per day.

The recitation period was forty-five minutes in the
large schools, forty-seven and one half minutes in the county high schools, and forty minutes in the small schools.

The average number of students in the large schools was seventeen, in the small schools ten, and in the county high schools it was sixteen.

Judging from the libraries of our standard schools, it appeared that three English references to two history would form the logical ratio.

The high schools were vastly different and there was a need for standardization.

The schools should be classified, and the smaller school not attempt diversification equal to the larger.

There was too much variation in cost. There should be some set of standards for equipment.
This was a detailed study of buildings and contents to determine what should be done to improve the physical plant; to find out how the staff was doing the job of educating the boys and girls of the community, and to examine the finances of the district. Information was secured from actual observation, legal documents, superintendents' annual reports, records of the county treasurer, minutes of the board, and school records. The progress of the school was ascertained and measured through standard tests.

The survey deals with the elementary schools of Havre. It includes only facts and information found in work of grades one to eight.

Some progressive practices have been adopted by the Havre board, such as the hiring of a full time clerk responsible to the superintendent, the elimination of standing committees, and the paying of teachers on a twelve months basis.

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A number of recommendations were made that might apply to any school system. They are: suitable business offices, cash reserve, greater effort to integrate art work with other subjects, better gymnasium facilities, dental service, Mantoux tests, assistance to handicapped children, and carrying the responsibility for the health activity by the teachers.
AN EDUCATIONAL SURVEY OF THE SCHOOL CHILDREN
OF JULITH BASIN COUNTY, MONTANA.


The purpose of this survey made in the Judith Basin
County schools was five fold, namely:
- Compare general educational facilities of the county
  with other counties.
- Determine the intelligence rating of children in
  grades four to eight.
- Determine achievement ratings of the same children.
- Correlate chronological age scores with mental age
  scores and subject scores.
- Determine the correlation of each child's arithmetic
  scores between the Stanford test and the Woody-McCall.

The results of the tests used to test similar abilities
showed a very high correlation, for example: The correlation
of .8627 vs. 007 between the Stanford reading tests and the
Haggerty reading test is very high. A similar correlation
was found in all tests used.

The results of the tests in various subjects showed
little correlation. They varied all the way from .43 between
reading and arithmetic to .65 between reading and nature study.
These failed to show any very definite relation between the
various subjects.
The highest correlations were shown between the various subjects and educational age and intelligence.

Sykes' conclusions were:

The small rural school should be closed.
There should be an equalization fund to be used for transportation.
The requirement for professional training should be made retroactive. Times and methods change, and we trust they improve. Teachers should keep up or quit.
Expenditures for a testing program are justified only where the results are used to increase efficiency.
There should be a retesting of the intelligence to verify the first result.

Great variations were found in the intelligence of children grouped together. Seventy two per cent of the students were chronologically at age for their grade; eleven per cent were retarded, and sixteen per cent advanced. Mentally, only forty seven per cent were at age for their grade.

The wide group difference is insignificant when compared with the wide individual difference which is found in the various grades.

As a result of the Judith Basin County Educational survey, sufficient data were furnished the County Superintendent of Schools and each and every teacher in the county, so that he or she could work out answers to any of the problems listed above. And
the writer is pleased to say that the majority of the teachers in the county took advantage of the situation and made the maximum use of all the data furnished them by the survey.

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In conducting this survey of the Havre High School, which is of a general and comprehensive nature, the author has attempted to give a true and factual picture of existing conditions in order that conclusions may be drawn from the data presented and that recommendations may be made wherever feasible.¹

A complete history of the Havre schools was given from the very beginning up to 1937. The first school held was in 1892. It was held upstairs over a restaurant. The development of the school system was traced step by step.

The economic history of the town was given to show the effect that it played in school development.

The high school curriculum was traced from the time of the organization of the school to the present. Comparisons were made with the curriculum in seven other schools that were similar in size. From this it was found that Havre ranked very favorably with these schools.

Tests were given to determine the achievement of students, and comparisons made with the national norms. The Sones-Henry test was used. The Havre students compared favorably with the standards on all parts of the tests.

The teaching personnel of Havre ranked well in comparison with national medians. Experience, age, education and salary showed up very favorably. Perhaps salary was some-

what out of line as it was considerably lower than some of the systems in the state of equal size.

The health and physical education program in the Havre school was excellent. It was really a step in the proper direction and should be expanded. Zahn made the following recommendations for improving the system:

The extra-curricular program should be reorganized to control participation and supervision.

There should be a better guidance program, and the music department should be given more financial support. Library equipment should be improved. A testing program should be introduced. Results of the tests should be used in dealing with individual differences. An adequate salary schedule should be adopted. There should be more and better supervision. More revenue should be provided. The practice of renting a building to Northern Montana College should be discontinued. Heating and ventilating should be improved. A fire vault should be installed.
This study is a survey of the school districts of Custer County, Montana, with a view to evolving a plan for reorganizing these schools into a larger administrative unit, comparable to the county system of public education.

Leaders in education were of the opinion that the small school district was no longer adapted to meeting present and future needs.

A very economical and effectual method of organization was to use the county as a unit. If all the schools of the county were united into one system, the needs of the entire area would be cared for under a single organization.

The problem was to make a detailed study of Custer County schools and point out the inequalities existing under the present organization. An attempt to measure educational conditions from 1921 to 1935 was made, which period was long enough to indicate trends.

Custer County remained unchanged since 1919. It was
a part of Big Horn County from 1864 to 1877, when the territorial legislature changed the name from Big Horn to Custer. When Montana became a state, Custer was one of the original counties. It comprised about one fifth the area of the state. The total land area was 3,741 square miles, or 2,394,240 acres. Farming, stock raising, and dairying were the chief occupations in the county. The Chicago, Milwaukee and St. Paul, and Pacific Railway shops were located in Miles City.

Data for this study were obtained for the most part from records in the public offices of Custer County. Facts and figures in the biennial reports were obtained from the State Department of Public Instruction at Helena, Montana. Other sources were the Federal Census Bureau, and the Library of the Miles City Daily Star.

There were 4,918 people gainfully employed in the county. They were engaged in all thirty-two industrial groups as classified by the federal census. Twenty-nine and two tenths per cent were engaged in agriculture, and 14.9 per cent were employed by the railroads.

In Custer County there were one second class, one third class, and thirty-three rural districts, of which seven were joint districts with the surrounding counties.

The average school census during the period studied was 3125.6. Seventy-one and three tenths per cent were urban, and
28.7 per cent rural. The average enrollment in the elementary schools was 1832.5, in the high schools 632.6.

Three fourths of all the pupils who finished the eighth grade in Custer County were from the Miles City elementary schools. Five and eight tenths per cent were from Ismay, and 13.1 per cent were from the rural schools.

Of the 1492 students graduating from Custer County High School during the fifteen year period, 46.3 per cent were boys, and 53.7 per cent were girls.

Of the teachers employed in Custer County High School 72.1 per cent were men, and 67.9 per cent were women. At Ismay 42.5 per cent were men and 57.2 per cent were women. The elementary schools at Miles City employed only 4.9 per cent men and 95.1 per cent women. At Ismay 9.5 per cent were men and 90.5 per cent were women; for the rural schools 4 per cent were men and 96 per cent were women.

All teachers were members of the 'Ontenana Education Association.

From the standpoint of length of term the majority of the school children of Custer County faced about equally. There existed some inequality among the rural schools.

The pupil-teacher ratio for Miles City and Ismay grade schools was 30.4 pupils and 24.2 pupils per teacher. For the rural schools it was 10.2 pupils per teacher. In the high school the ratio was 32.5 pupils in Miles City, and 22
pupils in Ismay per teacher.

The financing and the financial conditions of the schools in Custer County were very similar to the rest of the state.

The plan for reorganizing the district system was the county unit plan. Miles City was to be separate and independent of the rest of the county.
The purpose of this study is to make a survey of the small high schools and rural or third class school districts of Cascade County, Montana. It is a survey of income, expenditures and an analysis of factors which may affect school costs of the 57 rural schools and the six small high schools operating within the county.

Cascade County was created September 12, 1887. Most of the present county was organized from Choteau County, which was one of the nine counties created by the Territorial Legislature in 1865. A small part had been annexed from Lewis and Clark and Meagher Counties. In 1887 the boundaries for thirteen school districts were definitely determined.

The sources of the data were the annual reports of the school officials, and the records located in the office of the County Auditor, Treasurer, Surveyor, and Superintendent of Schools of Cascade County. The biennial reports of the State Superintendent of Public Instruction at Helena, Montana were also used. Other sources were the Fifteenth Federal census, Public Library of Great Falls, Montana, Library of the Great Falls Tribune, and reports obtained from the State

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Highway Commission located at Great Falls, Montana.

The land area of Cascade County was 2,788 square miles, which is twice the size of Rhode Island. It is drained by the Missouri and Sun rivers.

The principal industries were agriculture and mining.

Cascade County had never been known to have a loss of population. The population was 41,146. The per capita population for Cascade County was 15.2 persons per square mile. Eighty-two and nine tenths per cent of the population were native whites, 15 per cent, foreign born whites, .5 per cent, negroes, .2 per cent, Mexican, .4 per cent, Indians, and .1 per cent, Japanese and Chinese.

Cascade County was divided into sixty four school districts. Due to the topography of the county, the districts were very irregular. There was a need for smoothing out the lines of many districts.

The size of the rural districts varied from eight square miles to 185.5 square miles of land area. The districts maintaining small high schools varied from 54.5 to 390 square miles. The median rural district was 21.8 square miles.

The taxable valuation dropped very rapidly. During the five year periods 1922-26, 1927-31, 1932-36 the median was $66,430, $58,930, and $42,870 respectively. With this sudden decline and a demand for lower taxes, many schools
encounter difficulty. Through consolidation this could be largely corrected.

Of the total number of teachers teaching in the rural and small high schools during the past fifteen years, 50.6 per cent and 24.4 per cent of the college and normal school graduates were teaching in districts supporting small high schools, while 12.7 were found to be teaching in the rural schools. Beginning September 1, 1936 most of the third class districts or about 85 per cent, hired normal college graduates. 1

Ninety-five and four tenths per cent of the teachers employed in the rural schools were women and 4.6 per cent were men. Men were increasing of late.

Jahr set up a plan in detail for reorganizing the schools of Cascade County. It was a community district organization planned upon natural boundaries and around community centers.

The extreme decentralization of administration indicates that there has been little done in working out the educational system of Cascade County. Inasmuch as this decentralization results in duplication, waste, and general unwieldiness, it would seem that a simplification of the present organization would be advisable. 2

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2 Ibid., p. 107.
GENERAL HIGH SCHOOL SURVEY OF SHERIDAN COUNTY, MONTANA.
HERMAN A. GRUHN - 1939. 53 pp.

This survey included the economic and social background, the teaching personnel, the achievement of school children, the buildings and equipment, and the transportation and location of students in the eight four year high schools of Sheridan County.

The trend of high school enrollment increased while the population decreased. There was no reason given for this situation. The curricula of the various schools were enlarged to meet the needs of this increase. There was no definite information given in regard to the nature of this enlargement, merely the statement that they were enlarged.

It was interesting to note that five of the administrators were from Minnesota, and that the preponderance of the teachers were also from the state of Minnesota. It was found that the salary of the administrators and teachers alike was below the average salary of the state. It was also found that the teachers rated by the superintendents as superior were the ones having the greater number of years of experience.

The students were found to possess average intelligence, and their achievement was satisfactory except in grammar and history, in which the county wide median fell far below the
nation wide median of achievement in these subjects.

There were some buildings which did not meet the standards for school buildings. In fact there was no building meeting all of them. Science departments were found quite deficient in furniture and equipment.

It was recommended that courses in industrial art and home making be added, and that several of the high schools in the county be combined.
CHAPTER FOUR

FINANCE
The major problem was to determine the cost per thousand student hours of instruction, zone of safety and middle score.

The studies Bobbitt, Whitney, Moehlman, Evans, and Wilcox, dealing with school costs, have been reviewed. The basis of Wilcox's study was a copy of the daily program blank filled out by practically all the teachers in South Dakota high schools that reported to the survey staff. Anderson states that the technique used by Wilcox was followed very closely but the tabulation was quite different.

There were several minor problems that were closely related to the major problem. These problems are class size and its effect on unit costs, teachers' salaries and their influence on unit costs, and other factors affecting unit costs. A discussion of each problem was given to show its effect on the cost of instruction.

The data were gathered from High School Report A and Report B. These reports were submitted by the high school principals to the State Department of Public Instruction each year. Each high school report which was submitted in the school year 1929-30 was considered, regardless of the size of the high school or the number of years of instruction covered.
All subjects were considered except commercial subjects, and agricultural subjects provided for through the Smith-Hughes Act.

Summary of findings:

1. The "Zone of Safety" or the inter-quartile range lowest extreme is found in the schools of five hundred and up. The highest extreme is in the schools of fifty to ninety-nine.

2. As the number of pupils in a class group approaches a minimum of one, the student hour cost rises at a rapid rate.

3. Keeping other modifying factors constant, teacher salary operates directly in the calculation.

4. Class size, teaching load, and yearly time allotment are indirect factors in the calculation.

5. Class size is the most important determinant in student hour cost.

6. The rising costs of education are likely to cause one to accept the situation as revealed by the data, as obvious and requiring no research. Such a conclusion would be superficial to anyone who has followed the study this far.

7. Unit costs should be computed periodically for comparative purposes because of changing factors or combination of factors.
8. English, mathematics, history, or the required subjects are generally the least costly, while the elective subjects are the most costly.

9. Presuming that high schools are aiming at the same kind of results in the various subjects, in certain schools the teachers seem to be under working, while in others they seem to be over working.

10. The range of prices paid for the same quantity of instruction in the various subjects is shown in charts 13 to 16 on page 50 of Anderson's thesis. The range of prices paid for each subject is given on page 61.

11. As the total enrollment of school decreases, the number of students the principal teaches increases, and the number of students the teacher teaches decreases.

Recommendations:

1. Economy can be secured in many subjects but not by reduction of teachers salaries.

2. A reduction in student cost can be made by increasing the number of students in the class.

3. Teachers will accept the increased load through enrollment in classes and number of classes in preference to cutting of salaries.

4. Elective subjects that are poorly patronized should be eliminated.
5. Small high schools far below the stabilization figure set for high schools should not operate.

6. The consolidation of schools surrounding one particular community would also result in a reduction of instruction unit costs.
THE 1932 STATUS OF THE PUBLIC PERMANENT COMMON
SCHOOL FUNDS OF THE SEVERAL STATES.

W. L. GOTTENBERG - 1933. 104 pp.

This thesis did not deal primarily with a special
Montana problem. It is listed because it is a problem that
is of vital interest and it should be of value to know that
such a treatise exists. Anyone interested in school finance
can gain a great deal of information by a careful analysis
of the original.

Although the situation had improved considerably since
1905, the fact that there were still seventeen states lacking
specific laws on the investment of permanent school funds
showed that there was yet insufficient legislation. The in-
vestigation proved that even in the thirty-one states with
such laws, some of them are very inadequate.

Probably the best way of safeguarding these funds
would include the following:

1. Placing the funds in the hands of non-partisan, non-
   political boards.

2. Placing a heavy penalty on individual members for
   any loss.

3. Placing members under heavy bonds to guarantee per-
   formance of duty.

4. Auditing books and giving publicity to findings.
This study was concerned with a problem that was four-fold:

1. The facts on state control of investment and keeping of the funds.
2. The present method of investment as compared with methods employed in 1905.
3. The growth of principal and incomes from the funds.
4. The importance of the income of these funds to educational expenditures.

The data for the study were secured from school codes, state statutes, and letters from state officers in charge of these funds, from questionnaires sent to all state departments of education, reports from the state departments of education, and letters from state treasurers.

The following conclusions were drawn from the study:
1. Unpaid for lands reverted to the township.
2. Bad loans.
3. Unpaid notes.
4. Unpaid interest on bonds or notes.
5. Mismanagement.
6. Dishonest management.
8. Money due principal diverted.
9. Fund used to pay state debt.
10. Fund used for other purposes.
11. Exchanged for state securities - indebtedness later repudiated.
The most conspicuous problem in the field of public finance, apart from the ever present problem of taxation, is probably that of federal, state and municipal indebtedness. Of these three elements in the public debt, municipal debt is by far the most perplexing, probably because it includes our public school debt. This report deals with school bonded indebtedness in Montana.

The problem was not to formulate and instigate a new system of school finance, but to find out the existing state of practice and predict future trends in regard to bonded indebtedness from the facts as they exist. The study was limited to public schools only, and does not consider any debts incurred by the Greater University of Montana.

It was evident that some factors other than present population or number of pupils influenced school bonding, for wide variations were found per pupil and per capita. It was found that there was no correlation between the number employed and the amount of debt, nor the assessed valuation behind each dollar of debt. Therefore, bonded indebtedness was mainly a policy of local financial management which was manifested

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whenever there was a desire to improve conditions for pupils educationally.

There was very little bonding in the early history of the state. The greatest amount of bonding was during the period following the World War, and the high was reached in 1922. From 1926 to 1932 more money was paid for the redemption of bonds than was received from the sale of bonds.

The reasons for bonding were the state program for secondary education, normal extension of school plants, accrediting regulations, obsolete buildings, physical training program, tax exempt securities, and the general enthusiasm for bonding which had swept over the country since 1919.

Montana school districts had been paying bonds almost as fast as new and renewal issues were being floated. Most of these debts were contracted at the wrong time, when money was plentiful, and they were being repaid when money was hard to secure.

From this study it is recommended that districts continue to follow a conservative policy of issuing bonds until some time in the future when conditions may point the way to some other method of financing school debt.¹

STATE INSURANCE OF PUBLIC PROPERTIES.


This problem does not deal directly with a Montana problem but should be valuable to anyone interested in the matter of state insurance. A survey was made of the nation and the findings recorded.

The study was made with the purpose of finding answers to the following questions:

1. How many states act as insurance companies and insure all state property?
2. What plans were used?
3. What was the operating experience of the different plans?
4. The advantages over insuring in stock companies?
5. The disadvantages of the plan?
6. What per cent of insurance is carried by the state when the plan is not compulsory?

This study does not include only school property, but all state property.

The data for the study were gathered from the following five sources:

2. Letters to officials and authorities on insurance.
3. A questionnaire.
4. Official reports.

5. Insurance laws of the states having insurance plans or funds.

The findings were:

Six states provided insurance for state property; the management of the plan was assigned to insurance commissioners, State Treasurers, Administrative Boards or special boards; all funds exhibited a very low cost; all state plans, except Alabama with sixty per cent, began operating using Standard Board rates; re-insurance was an accepted safety measure.

The assets of the five state insurance plans ranged from about $400,000 for Alabama, to over $3,000,000 for Wisconsin. None of the state plans had failed or approached failure. The assets were invested in high grade securities and the earnings added to assets.
A FINANCIAL SURVEY OF THE MISSOULA CITY SCHOOLS
INCLUDING THE MISSOULA COUNTY HIGH SCHOOL.


The purpose of this study was to make a financial survey of the Missoula schools, including the Missoula County High School.

The data were taken from the annual report of the County Superintendent, Superintendent, and the County High School Principal. This was for the year 1933-34. No attempt was made at comparison with other school systems.

The Educational Problem. The number of children to be educated becomes an important item in determining the ability of the district to support its schools, for in this democracy we are attempting to provide free public education for all.

District No. 1 employed seventy-two teachers with 2401 pupils enrolled, for an average of 33.4 pupils per teacher, while the County High School had thirty-nine teachers and an enrollment of 1284, making an average of 32.9 pupils per teacher.

The amount of money available for the city schools was $239,657.85, and for the high school $150,774.19.

The Unit Costs. The following information should be available in the office of every school superintendent:

1. Available revenue for school purposes.
2. The total amount actually received from general taxation, special taxation, dog tax, court fines and penalties, donations, and any other regular and special sources to date.

3. The expenditures incurred by the administration to date.

4. The total payment to date and the amount of "encumbrance" against appropriations.

5. The cost of educating a child in each of the schools of the district, county, or town.

6. The total per capita cost of instruction in English, mathematics, Latin, history, civics, science etc. Also comparative costs for kindergarten, graded, and high schools. ¹

The smallest school in the district had the highest building cost. The largest school had the lowest building cost. The number of pupils per teacher and the average teachers' salary are the most important factors in determining the building cost per pupil.

The Lowell school had the highest average teachers' salary and the Franklin the lowest.

The number of pupils per teacher ranged from 19.06 to 35.96.

The smaller schools had the higher grade costs per pupil.

In the high school the subject costs ranged from $25

for social science to $22.66 for English per instruction hour.

The average class size was from twenty-three for foreign language to 37.5 for social science.

There were 4,532 instruction hours daily, and 165 classes for an average class size of 27.4.

Wynn concluded:

The taxable wealth per teacher was entirely inadequate.

District No. 1 had sufficient cash balance to defray expenses until tax collection time in the fall.

The accounting systems were entirely inadequate.

The Missoula County High School should keep adequate accounts of supplies used by each subject. They should keep separate operation and maintenance records for the two buildings used so as to make it possible to figure accurately the power, light, etc. used by the industrial arts department. In fact, both the Missoula city schools and the County high school should adopt an efficient and accurate method of cost accounting. This, however, would probably cost too much in proportion to the benefits to be derived to make it worthwhile.

THE NEWSPAPER IN THE SCHOOLS.


This thesis dealt entirely with the selling of the idea of the use of the newspaper as a tool in education.

The first part was concerned with the failure of the curriculum to keep abreast of the times. Students, upon completing the school program, were dismal failures in meeting life's problems. Employers complained of a student's inability in mathematics and English. Educators were well aware of the situation and were making an honest attempt to vitalize the program.

One great advantage of newspapers in the school room is that by means of them the pupil learns how to read discriminatingly. 1

Applegate summarized his work as follows:

In teaching history the newspaper is very valuable. It is almost impossible to pick up a daily paper without finding in it some timely reference to history.

If a class in civics used the newspaper profusely, nothing could be more valuable.

Commercial geography and the study of the newspaper go together.

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English composition can be taught effectively by having students prepare articles of interest for the local paper.

The teacher of journalism should be a major in the field of English and journalism.

A very careful analysis is given of the proper means of doing effective work in high school journalism and school paper editing.
This thesis was written after a state wide survey of Washington had been conducted.

The plan was to discover what was being done in Washington in junior and senior high school journalism, and also to discover the reactions of those who were directing the work in journalism, and also observers of the work.

Definite instruction in journalism in the junior and senior high schools was so new that it was yet in a formative stage. The data were secured by means of the questionnaire. The author was a director of a newspaper in a junior high school, and gave much information from her own experiences.
THE JUNIOR REPORTER

A PUPIL-TEACHER MANUAL FOR JUNIOR HIGH SCHOOL JOURNALISM.


This work was conceived when a teacher in his dilemma felt that what was one teacher's problem might well be another's problem as well, and that this study might be a welcome solution.

This work was divided into three parts. Part one, the newspaper, was a short course in journalism. A newspaper was defined. The contents were discussed, and every phase of a newspaper outlined. Part two, editing the paper, dealt with getting the story, making up the dummy, the actual work of printing and the method used in getting it to your breakfast table.

Part three dealt with school organization, and was full of material to be used in creating and holding the interest of students.

Magazines and yearbooks were also discussed, and their work outlined. LeFoux stated that there had been little written on the subject of junior high school papers.

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CHAPTER SIX

TEACHERS
The purpose of this study was to clear up the misunderstanding in regard to the length of the teacher's working day, and to increase the interest of administrators in a vital problem that had been neglected by them.

Chenery used the questionnaire method of approach. He sent a questionnaire to sixty-five schools and got returns from thirty-three. The questionnaire was answered by 168 teachers. It was on the answers of these 168 teachers that the study was based. The results were given in tabular form. The teaching load was determined by the Douglas Formula, an explanation of which is given in detail.

Chenery concluded that the teaching load should be equalized; administrators cannot afford to neglect the teaching load; the adjustment of teaching loads can be accomplished without additional cost; the range from three to seven classes was not justifiable. He found a discrepancy in various schools in all phases of teaching, such as classes, activities, assembly periods, but his general opinion was that all teachers were carrying too great a load.

The principal should exercise great care in equally dividing the work of the school among his teachers. He would do well to have his teachers hand in estimates of the time spent in the different co-opera-
The principals should make use of every opportunity for regulating the teacher's work and reducing the demands made upon their physical and mental energy. Increasing the teaching load of the high school teachers is poor economy and poor recovery procedure. The effect upon the development of personality, character, permanent interests and ideals has never been measured, as the more limited outcome of scholarship has. Better regulations of the teaching load can be of great assistance in developing the most valuable produce of education -- well rounded personalities.

The object of this investigation was to find the present status of Montana's retired teachers and to point out defects, if any, of the workings of the present teachers' retirement law. 1

The material was secured by sending a questionnaire to the 176 retired teachers. 118 responded. The data were not answered completely, therefore the totals as shown in the tables do not agree.

Among the teachers who have retired, one-third were retired about the time of their greatest usefulness. Some were retired twenty years sooner than they should have been. These retired teachers have received more than their individual contributions of money justified. The present teacher is paying the bill.

There have been numerous reductions in the amounts received by annuitants since 1926. This was done by legislative enactment, and if it had not been for this, the fund would have been defunct long ago. No doubt this would have been beneficial as it might have hurried the time for the enactment of a just law.

Approximately ten per cent of the retirements were due to disability. This compares very favorably with retirement systems of other states.

This survey showed that very few annuitants were able to adjust to other lines of endeavor and supplement the amount received, and therefore, most of them were poorly cared for.

No recipient gave a plan for improving the retirement law. This would lead to the assumption that the annuitants saw the retirement situation entirely from their own standpoint.

The recommendation was to enact a law similar to the one we now have.
This was an attempt to trace the historical development of the certification of Montana teachers.

The first teacher in Montana was Miss Lucia Aurora Darling. She taught a term of school at Bannack, and from all available records, she was not certified in Montana. The following year an attempt was made to establish qualifications to teach. When laws became necessary, the settlers naturally turned to those of other states and territories as patterns.

In the absence of an adequate law, practices in certification sprang up which were incorporated in a new law in 1883. In that year, after great effort, professional standards for teachers were finally authorized. With a few amendments the law was inherited by the new state.

The Constitution provided for the state board of education. From 1893 to 1923 this board was responsible for issuing state and life certificates. It was able to make rules and regulations where a weakness appeared in the law.

County certificates were issued by county superintendents from the earliest territorial days. The professional certificate made it possible for the holder to teach in high schools.
The county board of educational examiners was created by law in 1907. This was a step toward standardization of qualifications.

Summer schools were enacted into law in 1917. Normal training courses were established in high schools in 1917. The summer sessions of the State institutions came into prominence in 1917 and have maintained their popularity as teacher training centers. These were methods to supply the demands for professional teachers.

In 1919 the state board of educational examiners was organized. This replaced the county board and it was responsible for certification.

In 1920 the requirement was two years of high school and twelve weeks of normal training for all teachers. Montana ranked among the lowest in the United States. By 1927 this was raised to one year beyond a four year high school course. By 1936 the minimum requirement for every teacher of common schools was two years of training beyond the four year high school course.

This study furnished information concerning legal provisions for the issuance of certificates. There was a comparison made with requirements for other states. The trends in Montana have followed trends in other states. The qualifications have been raised from 1863 to 1936 so that they compared favorably with other states.
The present study has two major objectives: (1) Wherever possible to ascertain sound principles with respect to several selected problems of teacher personnel, and (2) to determine the status of current practice in Montana public schools upon these personnel problems.

The seven problems selected were: professional training and qualifications; selection and appointment; re-election; tenure and dismissal; salaries and schedules; married women; home talent teachers; teacher community relationships.

The results were taken from a questionnaire, available literature, and responses from administrators.

Elementary teachers should have at least two years, and high school teachers at least four years beyond high school. Some authorities believed there should be no differentiation in training and salary. They fixed the training at four years.

Some schools required experience. Some boards made the regulations in regard to qualifications, boards and superintendents in other cases, and the superintendent alone in still other cases.

Authorities were agreed that school boards should not select teachers. The superintendent should nominate and the

board confirm or reject. If rejected the superintendent should make another nomination. The board should never advance its own candidate. Superintendents were gradually exercising more authority in the selection of teachers. Thirty-seven per cent of the superintendents in Montana exercised this authority, while fifty-five per cent co-operated with the board.

About ninety per cent employed the personal interview in selecting teachers. Eighty-seven per cent used the M. E. A. Placement Bureau in locating candidates. Sixty-six per cent made use of commercial agencies, and printed application blanks were used in forty per cent of the districts.

On the whole, the practices, techniques, and standards employed in teacher selection by Montana administrators correlate very favorably with sound professional principles, and in several instances surpass the practices and standards reported in the office of education investigation.¹

Teachers were re-elected annually in ninety-six per cent of the schools of Montana. Only three schools have abandoned this practice. Teachers were required to apply annually for re-election in thirteen per cent of the schools.

Superintendents had less jurisdiction in dismissal than in re-election.

Boards should not be deprived of their right to terminate a teacher's contract; however, for the sufficiency of the reasons for terminating the contract, the superintendent should be the sole judge. 

The commonest causes of teacher failure were found to be: weak discipline, incompetence, poor instruction, lack of cooperation and disloyalty.

Violations of the principles of teacher administration in Montana were found in annual re-election and retention of board control over teacher dismissal.

All schools in Montana made reduction in salaries during the depression. Some made uniform percentage reductions, others a flat sum, while others considered each case separately.

There was a great amount of discrimination between sexes in regard to salary. There was also a discrimination in regard to single and married men.

There were considerable variations in the plan of payment. Some paid on the nine months basis, some on ten, and some on twelve. The greatest number used the nine months basis.

About half of the schools granted some time for sick leave. The time varied from two to twenty days.

Less than forty per cent of the Montana schools had a salary schedule. The financial depression caused some of

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them to abandon it.

The median salary for elementary schools was $1200, junior high school $1250, senior high school $1650.

The depression affected salaries greatly. Conditions may be expected to improve if, and when, a business revival sets in.

Policies against employment of married women were economic.

Home talent teachers were employed in seventy-seven of the one hundred twenty-eight schools reporting, while fifty-five per cent of administrators were opposed to them.

On the whole the majority of communities in Montana set up no unreasonable standards for teacher participation in, or assistance to community affairs; neither do they lay down any unjustifiable restrictions upon teacher conduct. Teachers are expected to conduct themselves in a professional manner and to become helpful members of the communities which employ them. 1

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The origin and development of the placement bureau in the M. E. A. was traced in order to show the status of the service. The attitude of administrators of the public schools and institutions of higher learning was obtained by sending letters to them. Inquiries were made of all state associations operating placement bureaus.

A well organized placement bureau in an association performs a service to a limited number of teachers and administrators. It was not clear as to the success or failure of the project. Some bureaus placed a large number at a low cost. Others placed very few at a high cost.

Success or failure depended upon several factors. Teachers and administrators must take a personal interest in the association, and they must have confidence in its officers. Political favoritism will do irreparable harm to the bureau. It is better for the manager to take an active interest, rather than turn such duties over to a clerk. There must be co-operation between state agencies.

University Placement Bureaus should attempt to place their graduates, leaving the placing of experienced teachers to state associations.

Too much subsidy should not be granted to the bureau.
because only a few members are benefited by the bureau.

Many contend that all placing service should be rendered by the State Department of Public Instruction. This is not possible because of legal provision, lack of finance and help. Politics are apt to color the work.

The attempt to establish a placement bureau in Montana was begun in March 1926 when Moser published his first article on the subject "A Placement Bureau in the Montana Education Association". February 16, 1929, the Executive Council of the Montana Education Association authorized the appointment of a committee to make a thorough study. The committee was instructed to report to the Delegate Assembly in December 1930. The committee reported, making the recommendations that a placement bureau be established; that the secretary of the association be the manager; that the bureau be self supporting, and that details be worked out by a special committee.

The committee was appointed January 10, 1931, and met January 17, 1931 and set up the placement bureau of the M. E. A.

In making this digest an attempt was made to get the reasons for the study, the conclusions and the history of the organization. There are several chapters dealing with the results of the numerous inquiries made, but since they seemed non-essential they are omitted.
CHAPTER SEVEN

TEXT AND LIBRARY BOOKS
THE CONSTRUCTION OF A TEXTBOOK IN MECHANICAL DRAWING

BASED UPON THE PRINCIPLES OF LEARNING.


In this work the problem was two-fold, (1) the analysis of existing texts, and (2) the writing of a text that would meet sound criteria essential for an elementary textbook in mechanical drawing. In connection with the first part, eleven texts were analyzed in regard to content, to see if they met the twelve criteria set by the author. It was found that no book met all twelve criteria, but all twelve of the criteria were found in the eleven books. From this it was presumed that these criteria were sound. The criteria were listed as follows:

1. The text should be divided into units of work.
2. The text should provide good pedagogical procedure.
3. The text should develop technique.
4. The text should provide practical problems.
5. The text should be considerate of the learner's time.
6. The text should be self-sufficient.
7. The text should not be a copy book but develop an understanding of procedure.
8. The text should develop each phase of drafting separately.
9. The text should develop each phase of drafting in psychological order.

10. It should provide uniform introduction of new material.

11. It should teach commercial practices.

12. The text should be based upon a psychological order.

The book is made up of seven chapters as follows:

Chapter I - Division of General Instruction.

Chapter II - Division of Pencil Drawing.

Chapter III - Division of Inking.

Chapter IV - Division of Dimensioning.

Chapter V - Division of Lettering.

Chapter VI - Division of Advanced Work.

Chapter VII - Division of Testing.

There were seventy-six figures of illustrations showing the mechanics, and fourteen plates for reproducing.

In the division of testing, the author set up true-false statements covering every phase of the work in the book.
The problem of this thesis was to compile a manual and list of books for Montana high school libraries. The book list and manual was published by the Department of Public Instruction.

The history of the high school library was traced, showing its development from 1835, the time of the organization of the first library, to the date of this thesis.

The following criteria were set up to be used in book selection:

1. To enrich the school curriculum by providing library service to pupils and teachers.
2. To acquire and organize library materials for school service.
3. To give instruction in the independent use of libraries and of books as tools.
4. To share with other departments of the school, responsibility for fruitful social training.
5. To foster informational reading as a life habit.
6. To encourage the habit of reading for pleasure.
7. To develop the library habit.
A study of numerous booklists was made from which tentative lists were selected on the basis of inclusion in these lists. An attempt was made to keep the groups balanced so that the money available could be used to the best advantage.

The method of compiling booklists was given in detail in the original thesis, but space does not permit giving it in this brief review.

Since the library is a room to be used by all the students, its location, size and equipment was a very important matter.

The qualifications of the person in charge were of prime importance. The success or failure of the library depended upon the person in charge.

The number of volumes required depended on the school enrollment. State Departments often specify certain classes of books that should be included in every school library collection. The accrediting association had also set up standards for libraries.

Financing was usually taken care of by statute. First, it was by lump sum. Now, it usually depends on the enrollment, so much per student for books, and so much for magazines and newspapers.

A well organized library was as necessary as having a well selected list of books and a trained librarian. The accession record must be kept up to date. The shelf list was
very important and was useful in showing weaknesses.

The Dewey abridged decimal system of classification
was in use in practically all libraries.

The administration problems were mainly: attendance
in the library, length of loan time, renewal privileges,
fines, and circulation statistics.

Every student should receive instruction in the use
of the library. There were many plans in use for this pur-
pose. The plan is really immaterial as long as students are
taught the library and its use.
THE SELECTION AND ADOPTION OF TEXTBOOKS IN MONTANA.


The principle objective of this study is to determine the status of the selection and adoption of textbooks in Montana, taking into consideration present conditions as well as past experience in this regard. 1

The first part of the study dealt with the history of the textbook problem in Montana. The rest was on the answers to a questionnaire and criticism of schoolmen regarding the present method of selecting textbooks.

The matter of uniform textbooks was a problem that vexed the legislators of the first territorial legislatures. It bobbed up in practically every session until 1925. Since then there have been no changes.

Free textbooks were first mentioned in 1884 in the report of the territorial superintendent. Nothing more was said until 1895 when Superintendent Steere argued for free textbooks. The first law for free textbooks was enacted in 1897.

The state textbook commission as it exists today has been in existence since 1907. There have been changes from time to time in respect to who should serve; how long the

1 Cleve O. Westby, The Selection and Adoption of Textbooks in Montana, (Master's thesis), 1936, p. 1.
term should be, and how large the body should be. The first commission was composed of schoolmen with the exception of the governor.

From the study of elementary school questionnaire, the following conclusions were drawn:

The average cost per pupil for texts was $1.86.
The average superintendent was dissatisfied with the present plan of adoption.
The feeling was that first and second class districts selected their own books, and the commission adopted for the third class.
The county plan met with little favor.
The present plan was too restrictive.
The commission should make several basal adoptions.
Length of period was satisfactory.
Most schoolmen felt that using different books would cause little difficulty in case of transfer.
The commission should be made up wholly of school people.
There was too much politics in appointment and selection of books.
The most valuable feature of the law was that it makes changes mandatory.
Some central body was needed for third class districts and rural schools.
From the study of the high school questionnaire, the following conclusions were drawn:

The average cost for texts per student was $2.35, which was lower than in 1928-29.

Most high schools used the 8 - 4 plan.

They had to cut down on the amount spent for texts.

Reasons for changing texts are:

1. Improvement of presentation of material.
2. Change in contents.
3. More adapted to student's needs.
4. Desire for text adapted to unit or project method.

Westby concluded:

Price was an important item in text selection.

Social and natural science should be changed every four years.

Very few schools had to assign two students to one text.

Adoption be made by superintendent with the advice of the teacher.

Four copies be examined to make a selection.

More than half of the schoolmen were influenced by the name of the author.

Little emphasis was placed on the name of the publisher.

The state textbook commission should not adopt books for high school.
Score cards were not used in evaluating texts. Advertising, circulars and salesmen were a positive help in selecting a book. All administrators were glad to receive the help of publisher's representatives. Most sample texts were placed in the library as references.

The reasons why schoolmen in Montana ask for free samples, though they contemplate no changes or introductions, are for reference books, to find out what is new in the field, and with the view that at some near future time an adoption may be made or a new course introduced in the curriculum. ¹

It is the purpose of this study to summarize a number of items of information regarding the high school libraries of Montana, to draw conclusions from the information, and to offer some suggestions as to the improvement of the high school libraries of the state.

A questionnaire was sent out to the two hundred and twenty one high schools in the state. One hundred and sixteen, or 82.5 per cent sent replies. The questions asked dealt with expenditures, administration, library quarters, number of books, and equipment.

The 1934-35 expenditure for libraries in the county high schools varied from $125 to $750. The average was $225. The average expenditure per student enrolled was $51. In first class districts, the expenditure varied from $150 to $1600. The average was $317, and the annual per pupil expenditure, $.65. In second class districts, the expenditure varied from $32 to $500. The average was $158, or $1.00 per pupil. In third class districts the expenditure varied from nothing to $650. The average was $112, and the per pupil cost was $.30. In the private Catholic schools, the costs

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varied from $20 to $300. The average was $117 or $42 per pupil. No doubt these schools benefited by gifts of books and magazines from members.

Although the average for the state is up to the 'worth Central requirement, many of the schools spending only from nothing to $20 or $32 for enrollments of up to one hundred students are not offering much new material during the year to their students. 1

In administration, 15.9 per cent reported full time librarians; 41.6 per cent reported English teachers; 31.9 per cent reported other teachers, and 10.6 per cent reported student librarians. Nineteen and one tenth per cent kept the libraries open less than the school day; 37.6 per cent just the school day; 30.9 per cent kept them open the school day plus up to one hour, and 16.4 per cent kept open the school day plus more than one hour.

The library quarters in the majority of cases were inadequate, poorly located, poorly lighted, and had insufficient seating capacity.

Much needs to be done to bring the number of books up to standard in all the schools. The kind of books was quite representative and usable, although many of the smaller schools differed in this matter. The median number of books in the state was nine hundred.

The equipment was fair, but was deficient in many schools. All schools were under the requirement of fifteen magazines; 75 per cent had the books accessioned; 86 per cent had the libraries catalogued; 83 per cent had a charging desk; 69 per cent had bulletin boards; 62 per cent had a reference table; 78 per cent had magazine racks; 31 per cent had files for clippings; 11 per cent had exhibit cases; 30 per cent had display racks for new books.

The author is impressed by the fact that while more than one half of the Montana high schools have adequate libraries, many offer rather pitifully few facilities. For the most part the requirements of the State Department are sufficient. The chief recommendation would be not for more requirements, but for more checkup and supervision to see that present requirements are met by an increasing percentage of the Montana high schools.

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VOCATIONAL GUIDANCE.

JOHN HOWARD BRENEMAN - 1918

This thesis is merely listed and not reviewed. It does not deal with Montana education, but is the first attempt by a student to do something with vocational guidance. Any student who is interested in the field would do well to study the original.
This thesis is not on a Montana problem, but is a problem that is of vital interest to Montana educators, and anyone interested in the field of guidance will profit from a study of the original.

The conditions presented and the procedure undertaken in the analysis resolved this study into a two-fold problem. The first part consisted of making a critical analysis of the results derived from the first survey of June 1930 to determine:

1. The status of factors used as a basis for guidance purposes.
2. Relationships between various factors in guidance which were incorporated in the survey.
3. Dominant trends and tendencies among high school pupils which are significant from the standpoint of guidance.
4. The status of pupil interest as a basis for guidance in curricular and extra-curricular activities.
5. Factors that will lead to a better understanding of problems in guidance for pupils in rural high schools.

Recommendations were to be based on the results of the survey of June 1930.
The second part of the thesis dealt with data secured in the second survey of June 1932. The problem of the re-survey involved a series of comparisons and deductions to determine:

The persistence of educational aims of students.
The status of students withdrawn from school.

Conclusions and recommendations:
Interests that dominate a child should be explored and these motivated and utilized.
Extra-curricular activities should reach special interests of each child.
Vocational subjects should be more extensively offered for exploratory and training purposes.
Emphasis should be given general training requirements.
Students should be taught that all honest work is honorable.
Every teacher should share the duties and responsibilities of the guidance program.
The idea of this study was to bring together material that would be very valuable to any teacher of guidance, or anyone wishing to start a guidance program in his school. Quite an impressive list of material was listed which may be secured to supplement the regular text, and should be of invaluable aid.

In addition to this comprehensive list of materials available, plans were presented for the study of the occupations. This treatise has been worked out in detail, and should be of service to people interested in guidance.
This study was made to find out what was being done, and what had been done in the high schools of Montana to inform students regarding educational and vocational opportunities; what was being done to guide students into the best and happiest channels for their educational and vocational success, and what was being done to place and follow up drop-outs and graduates of Montana high schools.

Olson used the questionnaire, the interview and experimentation in carrying on this study.

The thesis was divided into four parts. Part one was on informing the student, and from questionnaires sent to the Montana high schools, he found that 66.3 per cent of the schools in first class districts were offering courses in occupations, 73 per cent in second class districts, and 74 per cent in third class districts were offering courses in occupations. The greatest number of schools giving a course in occupations offered it in the ninth grade, followed by the tenth, eleventh and twelfth grades respectively. Authorities differed as to the proper grade placement, but the majority agreed that it should be placed early with emphasis all through high school.
While the course in occupations was considered the most valuable device for informing the student, other means were listed as being of great service, such as talks, interviews with business and professional people, slides and movies, field trips, and exploratory and try-out courses.

Part two was on guiding the student. He should be guided in the choice of a vocation and special emphasis placed upon educational guidance. The best plan, of course, is to have a guidance program worked out and directed by experts in the field of guidance. In Montana such a plan was not feasible because of lack of finance, but considerable had been done through the principal, home-room teachers, and counselors.

Part three dealt with placing the student, and follow-up work, or keeping in touch with his progress. Very little had been done along this line by any schools in Montana. This is a field that should be developed, and a more careful check kept of students' progress in life.

Part four was Olson's summary and findings, of which the author will attempt to give a resume. Very little had been done by the states through the state departments in regard to guidance. Guidance has been a part of education since its beginning, but it is only recently that it has had recognition in the formal set-up of administration, and
is recognized as one of the vital programs.

Guidance varies in every community and should be adapted to the needs of the community, but it should not be entirely provincial because of the mobility of the population. It was recommended that much more be done in this field, and that our normal schools and colleges give more intensive training to people interested in guidance, so that it will be possible to get teachers who are qualified to do a good job of counseling in the schools.
The Evolution of School Administration in Montana was divided into three parts: the evolution of state administration, the evolution of county administration, and the evolution of district administration.

The evolution of state administration showed the steps taken by the territorial legislature and the state legislature in developing our system of public education as it was at the end of 1921. It dealt with the Superintendent of Public Instruction, State Board of Education, State Board of Educational Examiners, and the University of Montana. It gave in detail every step taken in improving the state setup and showed that the early educators and legislatures were quite advanced in their thinking and planning for the future.

The evolution of the county administration had for its theme the County Superintendent of Schools, Rural School Trustees, County High School Board of Trustee, County High School Principals, and the County Board of Educational Examiners. Each one of these was traced from the time it first appeared in our system of State Government to the end of the 1921 legislative session.

The evolution of the district administration reviews the Board of School Trustees, District Clerk, The City...
Superintendent of Schools, and teachers.

This thesis is worth studying by anyone who is interested in knowing just how the present system of public education grew. It would save considerable time and effort, because to find out otherwise would entail a great amount of leafing through dusty law books.

Burney secured his material from the laws, records of the legislature, and reports of the State Superintendent of Public Instruction.
The purpose of this study was to present facts concerning the public schools of Montana in a concise form that would be information for anyone who is interested in the public education of Montana.

Davies, in her chapter on general facts, lists sixty-one facts that every person in the state should know. There are a few in regard to attendance, census, valuation, population, that change from year to year. These, of course, may be found in the biennial report of the State Superintendent of Public Instruction, and may be brought up to date from time to time.

In the chapter on administration and supervision, will be found a list of twenty-eight facts pertaining to qualifications and training of the incumbent at the time the study was made.

Some of the material in this chapter is valuable - such as the part dealing with the State Superintendent, County Superintendent, and certification - but due to change, part of it cannot be considered authentic for any great length of time. The above will hold true for every chapter in the thesis. It is very usable, and will be, in many respects, for the next
few years, but any person who wished to make use of these
facts should check carefully to see that a change has not
been made subsequent to the study. Changes in school
affairs are slow to take place, but once in a while changes
are made, and any interested individual should be cognizant
of this fact, and be sure that the fact is a fact and not
"was" a fact.
In this study, Haines attempted to give a true and accurate picture of the boards of education for the year 1931. His study included age, occupation, education, number of children, matrimonial status, property owners, and other public offices held. These were matters pertaining to the individual members of the boards. In addition, he attempted to discover something of the work of the board as a unit.

The clerk was also included, and in addition to the questions asked of trustees, he was investigated for his training and experience in bookkeeping.

The conclusion drawn by Haines was that no additional legal requirement would be justified by Montana conditions. A property requirement seemed unnecessary. A requirement that a board member have children in school would deprive many districts of the experienced members, and injure the efficiency of rural boards.

The board members represented a selected group from the standpoint of education, property, occupation, age, marriage and family. The differences existing among boards in the different classes of districts were mostly age, wealth, and conservatism. The typical board member was better educated than the average man in the community. Most communities showed a decided tendency toward picking the leaders in the community for this service.
The study of present administrative practices affecting modern language instruction was to reveal important causes of deficiencies, and to give practical aid to: the high school administrator, the high school teacher, the college departments engaged in training teachers of modern languages, and those preparing themselves to become teachers. There was very little real information concerning the administrative status of the modern languages.

In 1924 sixty-six high schools, or 33.5 per cent of the 197 reporting, were offering modern languages. The number of pupils enrolled in these schools was 63 per cent of the total enrollment.

The total number of schools teaching Latin was 120 or 60.9 per cent of all high schools, while 52 high schools or 26.4 per cent did not teach any foreign language.

The teachers teaching language were well trained for the position as a whole. There were no native teachers, and only one who had gained a knowledge of the language he was teaching in childhood. The tenure was poor.

Comparison of costs of instruction could not be made with any accuracy.
In Montana high schools Spanish enrolled nearly twice as many pupils as French. The Latin enrollment was much greater than that of all modern foreign languages combined.

Modern language teachers appeared to suffer somewhat from inequality in salary. This inequality must result in a detriment to teaching efficiency in the modern language department. In view of the high order of ability, and the exacting type of training that are desirable for this work, modern language teachers deserve to be as well remunerated as teachers in any high school department.
MAKING THE SCHOOL A COMMUNITY CENTER.


This thesis was written to give some help in making the school a community center under ordinary conditions found in different parts of the United States.

A detailed history of the movement was given, showing where it was originated and its growth. Schools as recreational centers were first established in New York in August 1899. The establishment of schools as recreational centers grew out of the need for wholesome recreation. It was thought that a great deal of crime was due to the wrong use of leisure time, and the use of schools as community centers under proper supervision would alleviate the situation.

An account was given of the latest and most distinctive examples of such work. Most of these were developed during the World War or shortly after. There was nothing listed later than 1918. Several schools in western Montana are listed as having done considerable work along this line.

The factors involved in making the school a community center were: leadership, people, buildings and surroundings, existing organizations' interest manifested by educational leaders, and the school board. It was usually an easy matter to get started, but the main thing was to start right. The important factors were: a survey of the community to deter-
mine needs and desires, proper advertising, and perfecting the organization.

After getting the program started, the next thing was to keep it going. Certain principles that will prove valuable were: clearly defined aims, common sense, competent counsel, adequate records, and getting things done on time.
STATUS OF JANITORIAL SERVICE IN MONTANA PUBLIC SCHOOLS.

MACK MONACO - 1934. 94 pp.

The present study, however, is an extensive treatment of the janitorial service in all types of schools with particular emphasis on Montana schools. Special attention is given to the importance and need of janitorial service.

Data were secured as follows: a survey was made of the literature bearing on the subject. Questionnaires were sent to various schools in Montana. Replies were received from 61 per cent of the schools. There were 282 returns in all.

The questionnaire showed that janitorial service was considered very important by all the schools replying. The reasons listed for its importance were health conditions, influence in setting housekeeping standards, care and use of valuable property, and influence in setting moral standards.

The janitor was selected by the board of education in the majority of the schools. There were practically none that required any qualifications. Six schools required applicants to pass physical examinations. Every school should make this requirement.

Forty three per cent of the schools employed their

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Janitors for the entire year, which is the most practical and efficient method.

Janitors should be rated to improve their service.
Janitors should be trained for their jobs.
Records should be kept and reports made by janitors.
Janitors should have a comfortable room for their use.
The average daily load of a janitor was the care of 9.6 rooms, two toilets, two halls, two stairs, and one gymnasium.

An old building was harder to take care of than a new one. It was the practice to clean daily with a thorough mopping and scrubbing three times a year. Blackboards were cleaned weekly and chalk trays daily. Toilets should be disinfected frequently.

Janitors did summer work in many schools. This work should be systematically outlined.

The average salary for janitors was $1032. Sixty seven per cent owned homes, 70 per cent had insurance, 65 per cent owned automobiles, 75 per cent owned radios, 80 per cent subscribed to papers and magazines, and 15 per cent were sending children to college.

Twenty per cent of janitors had physical defects. This situation could be remedied by requiring physical examinations.
Rural teachers were required to do their own janitor work. Eighteen were paid an additional amount for this.
Frame construction was the prevailing type of rural school. Cleaning was done daily, with a thorough cleaning three times a year in most of the schools studied.

The outdoor privy prevailed in the rural schools studied. The indoor toilet is the only solution. The privies were not cleaned or disinfected.

Water facilities were wholly inadequate, and the common drinking cup was used in fifteen per cent of the schools.

The unjacketed stove was found in ninety per cent of the rural schools. Further study should be made in regard to heating and ventilating.

Efficient janitorial service with fair compensation would remedy many of the problems of the rural school.
This thesis was not an attempt to present a "new system". It was written to help teachers correct speech defects. Most of the literature on the subject is so technical that it is not understandable by classroom teachers. The material presented by the author was meant to be so clear and concise that one did not have to be a specialist in order to make use of it.

The literature on speech correction is neither extensive nor in agreement. There is disagreement as to terminology, background for defects, and methods of correction. Writers are often so verbose that whatever contribution they may have is lost in their failure to organize their work in a simple direct style. ¹

It was suggested that the thwarting which accompanies the stutterer's efforts to speak, make him highly dominant. This is a mode of accommodation.

A part of the thesis was devoted to speech defects in general, with methods and devices for improvement of the speech of all children and correction of defects already developed.

The following points as aids in corrections should be used:

1. Children learn to talk by talking.
2. Teachers should see that all children have an opportunity to talk.
3. Speech defects are largely a matter of re-education unless the central nervous system or a physical defect is involved.

Stutterers must be given faith in their ability to talk fluently. Have them read in concert with the teacher, or with some rhythmic device. The lisper must be taught to make sounds correctly and adopt it into his own speech habit. A mirror is valuable in teaching sound correctly by imitation.

A good physical condition was essential to good speech. All defects should be taken care of. The child should have rest, fresh air, and wholesome food.

Speech defective children should take training in declamation and dramatics. They should be trained to perfection and speak before an appreciative audience.
This investigation has as its main objective the study of the status of the Montana Public School Administrators. The purpose of the investigation is to present an analysis of the status of the administrator's position and to make comparisons of the findings of this study with those of similar studies.

Ever since the first superintendent of schools was appointed, the office has had a progressive evolution. It was one of the most significant developments in American life. Most of the data used in this study were secured from the administrators, using the questionnaire method. The Educational Directory and the Montana School Laws were also used.

Salaries. There was a great difference in salaries paid. The lowest, $300, was in a third class district, while the highest, $5400, was in a first class district. The medians showed that salaries tended to increase with the size of the district population. This was natural as it should be. The median salary for administrators in the third class districts compared favorably with the median salary for janitors and high school teachers. It was below the median for janitors in second class districts.

1 K. A. Tovey, The Status of the Public School Administrators of Montana (Master's thesis, 1934), p. 2.
The median tenure rose from third to first class districts. It was two years below the national median.

The highest enrollment of all schools was 5,638, the lowest, 42, the total range was 5,590.

The median number of teachers was 72 for first class, 18.6 for second, 6.8 for third, and 10.6 for county high schools.

The median valuation was $10,500,000 for first, $5,217,658 for county high schools, $1,030,000 for second, and $462,500 for third class districts. Highest salaries were paid in districts with the highest valuations.

Seventy-one and seven tenths per cent of administrators held secondary life certificates. Temporary certificates were held by 1.2 per cent. Sixty-seven and five tenths per cent of administrators pursued the general course in high school; 22.2 per cent pursued the classical.

The largest number of administrators received their B. A's. at the University; Intermountain College was next, and then Montana State College. Of the 117 reporting, 48 were from schools in the state. Thirty-one and three tenths per cent had a degree in education, 21.7 per cent in science; 22 per cent in the arts, and the remaining were scattered through the other schools. Of the twenty-one administrators with M. A's., ten were taken at Montana University.

There was teamwork between the school board's power to initiate, and the administrator's power to approve.
Social policies of teachers were adopted in numerous cases. They were not drastic, but more in the nature of good advice.

Administrators were giving insufficient time to public relations. They gave very little time to professional study. In third class districts the teaching load was 4.25 classes daily, which accounts for the lack of the above.

One and seven tenths per cent of the districts allowed a bonus for attendance at summer school. In other words, two districts made this allowance. Fifteen per cent paid expenses to educational meetings. This did not compare with the nation as a whole, which was forty-seven per cent.

All superintendents did some supervisory work. The median number of minutes in first class districts was forty-five, and in the other districts somewhat less. More routine work should have been delegated to subordinates. Administrators were doing too much of it.

Nine districts reported no need of additional services to help educational leadership of their administration. Additional funds needed were reported most times.

School administrators were active in eighteen community activities. Ability to handle athletes was an asset in securing an administrative position.
The plan of this investigation was to determine the status of extra-curricular activities in Montana high schools, and to find out how the practices in Montana conformed to practices in other states. The thesis dealt principally with the plan of financing and managing extra-curricular activities, and of developing a simple and sound accounting system to put student finances on a firm business basis. Prescott says, "A system of internal accounting must be set up that will assure honesty and financial probity." It was his belief that a system that was quite simple could be developed, and could be employed in any high school, regardless of the size, or the amount of the money that was handled. The plan was to have a "Central Treasurer" who was to be a member of the faculty, specially qualified and bonded. It would be his duty to keep the moneys collected from all activities and disburse them on proper authorization. This plan was given in detail and showed the necessary forms for carrying out such a program, and may be found in the original thesis.

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The study showed:

1. Nearly all high schools needed better financing, administration, and control.

2. There were very few books dealing with the subject definitely.

3. The predominating tendency was to use the centralized system, which is the one to be recommended.

4. Improvements should include
   a. More and better forms.
   b. More complete centralization of the activity finances.
   c. More student participation in the management of the system under faculty supervision.
   d. Bonding of central treasurer.
   e. More care in making and operating the budget for activity organization.
   f. More careful accounting by each activity organization.

5. An audit should be made at least once a semester.

6. Schools should allow and encourage more student participation.

All forms to be used are listed, and anyone wishing to use them may consult Prescott's thesis, but unless that is the case, it would be rather useless to put them in this review.
THE SUPERVISION OF HIGH SCHOOLS IN THIRD
CLASS DISTRICTS OF MONTANA.

E. F. SLAGHT - 1934 90 pp.

It is the purpose of this study to consider the problems involved in the supervision of instruction in small high schools in Montana and to propose measures for their solution. 1

The problems to be considered were objectives and techniques for a supervisory program, determining character of programs in use, setting up criteria for an effective program, investigating status of the duties of the principals, and plan for budgeting principal's time.

The following procedures were used in an attempt to solve these problems: reviewing literature on the subject, questionnaire, plan for alternating subjects, determining what the supervisory program was, and practical suggestions for principals to use in improving their programs.

From the 124 accredited high schools in third class districts, ninety-one reported. The schools were divided into three groups according to enrollment.

It was found that sixty-one different subjects were taught by the principals. These small schools were going to extremes with their offerings.

1

It was found that the teaching load did not allow much time for supervision. This could be overcome by limiting the number of subjects offered or by combining courses.

The activities program was a step in the direction of the aims of education. A list of criteria had been set up which will be found in the original thesis (page 43) for an appropriate program.

It was recommended that the small school be organized on the six-six plan.

It was found that the principal gave too much time to directing extra-curricular activities.

The length of time spent in class visitation was too short. Teachers' meetings were not held frequently enough, and sufficient preparation was not made for these meetings.

Eighty-five principals used tests and measurements in their schools.

Slaght concluded from the findings that a large number of principals had not been trained for their work.

In order to do his work properly, the principal should budget his time and delegate many duties, select versatile staffs, reduce curriculum when it is excessive, alternate subjects and combine classes, not try to compete with larger schools, and reduce the burden of extra-curricular activities which are generally overdone.
A STUDY OF CONSOLIDATION OF SCHOOLS IN THE UNITED STATES
WITH SPECIAL REFERENCE TO CONSOLIDATION IN MONTANA.

GEORGE R. SQUIRE - 1927. 113 pp.

The problem was one of consolidation and its difficulties, as well as the advantages to be derived from it. The survey was of the United States with particular emphasis being placed on the Montana phase.

The history of consolidations showed that it developed very early in our school system and is with us today as a very vital factor.

Several outstanding consolidations were given to show what can be done with consolidation. The benefits were in the form of improved curricula, and the zest that was added to community life.

A conference was held in 1925 at Cleveland, Ohio, and twenty-three state superintendents took part. In addition, there were a great many county superintendents and school administrators from all sections present. Most of the time was devoted to a definition of the term. There were nearly as many definitions as there were people at the convention.

In a consolidation, many problems were involved. Judicial care must be used in locating, selecting a site, and the building to be constructed. Financing, method and cost of transportation, teachers, housing problems, the
curriculum, and social responsibilities must all be given a great amount of study before actual consolidation is attempted.

A survey was made of consolidation in Montana in 1921. At that time there were eighty-six such schools reported. It was found that the consolidations in Montana have as much wealth to support them as does a typical consolidation in the United States.

The result of this study showed that the movement for consolidation had long passed the stage of theory and was rapidly spreading. The educational opportunities were enlarged by better buildings with janitor service, community pride in the plant, community center with appropriate activities, incentive for better roads, less waste, better attendance, better teachers, better supervision, greater social life, longer class periods, greater holding power, better school officials, less truancy, increased value of real estate, equalization of burden, and secondary training made possible.

Consolidation was not a panacea for all economic and educational ailments. In some cases it has hurt weak districts. It is not always possible because of topography. The expense is sometimes very great. The larger the area, the more successful the consolidation.
EDUCATION IN THE CIVILIAN CONSERVATION
CORPS CAMPS OF MONTANA.


The object of this study is to describe, in an impartial manner, the educational activities carried on in the Civilian Conservation Corps camps in the state of Montana.

The educational program was begun in the CCC a year after the CCC was organized. The program is to assist the enrollee in developing initiative and to raise the educational level of the men.

The War Department had the chief responsibility of administering the CCC. The Office of Education acts in an advisory capacity to the Department in all matters pertaining to education.

The educational program had not crystallized. It was still in a state of growth and change. Should the CCC become a permanent organization, it is probable that its objective will be educational rather than work.

Certain educational features accrue to those who are not connected with the educational program. The development of good habits will no doubt leave its mark on many of the men. The experiences are all obviously educative.

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It was hard to evaluate the accomplishments because they were obscure and intangible. Many men had profited, but perhaps some had not. The educational program had awakened many latent interests, both vocational and avocational.

Perhaps the greatest single achievement of the educational program and of camp life together is that it has modified the character of many future citizens; it has tended to replace pessimism with optimism; it has dispelled perverted ideas as to our government and social structure; it has restored ambition to the listless; and it has given many a man confidence in himself and the courage to face the world anew.

1

Adult education under various names might be traced back to antiquity, but the greatest advance has been made in the past decade.

Several different authors' definition of the term is given. For example, Brannon says:

A deliberate and voluntary attempt to organize ourselves, and to better adapt ourselves to our surroundings, or perhaps to modify our surroundings.

This type of education was thought by many to be most important for race betterment.

At the turn of the nineteenth century, education for children progressed rapidly. The clamor now was for more and better adult education. Naturally the public schools were looked to for help in this movement.
In spite of the depression, adult education was making progress. When normalcy returns, education in the public schools for all adults will be urged. In 1927 there were nearly one million adults enrolled in evening schools. This was only a small per cent of the number who could profit by attendance at those schools. There were only about half the boys and girls enrolled in high schools. If the other half were to become educated, they must go to evening or adult schools.

Many cities were conducting adult schools. It was found that cities of 30,000 to 100,000 conducting evening schools enrolled from \( \frac{1}{3} \) to 2 per cent of their day school attendance, and cities over 100,000 vary from 2\% to 12 per cent. The difference in variation was due to the desires of the inhabitants.

The explosion of the old theory that an adult cannot acquire new knowledge aided greatly in increasing the demand for knowledge.

There was a great demand for correspondence study. Extension work was being done in many localities, but the demand was not as great as for correspondence. The State College was doing extension work, and the other units of the University offered correspondence. In addition, a great many correspondence schools did a thriving business.

The plan of this study was to discover what amount
and what agencies contributed to adult education. The plan in Montana was as follows:

1. Smith-Hughes Vocational Education was considered education for adults. In 1932 high schools had 807 enrolled, the School of Mines 101, and railroad schools 170. Co-operative work was done in eight schools helping 335 students.

2. Correspondence Study and Extension Work reached around 50,000 people a year.

3. Parent-Teacher Associations had a membership of 4825. The programs were educational in nature.

4. Federated Women's Clubs had a membership of 5000. Their programs dealt with many fields and subjects.

5. The Masonic Lodge had a membership of over 20,000. It stressed educational matters.

6. Service Clubs did a great deal of educating on all subjects.

7. Rotarians, Kiwanis, and Lions Clubs were all doing a certain amount of enlightening and educating their members.

8. Special Adult Study Classes were conducted in nine schools.

9. American Legion Posts educated youth and foreign born. They conducted citizenship schools.

10. Post Graduate work was being done in many high schools.
11. Adult Indians were encouraged to attend school.
12. Churches were holding adult classes.
13. Labor was very active in this field.

There was a demand among Montana adults for education. There was lack in organization and funds. A more effective organization will be possible when the government furnishes federal funds and leadership.
A STUDY OF THE TENDENCY TOWARD CENTRALIZATION IN EDUCATIONAL ADMINISTRATION.


This thesis did not deal with a Montana problem, but with education in the United States. It is not being reviewed but it should be mentioned in passing. It gives quite a complete picture of centralization and its evolution. It was also the first thesis to be worked out in the department of education at the University of Montana.
Discussing individually radio's contribution to each of the six mental functions which constitute improvement of individual conduct - the general aim of education - Baldwin concluded that radio is an excellent assistant in the acquisition of knowledge and the development of social competence. He classified it as a good aid in building the individual's ability to solve problems and in developing creative activity and aesthetic experience, while in the acquisition of skills its utility is only fair.

In evaluating the radio as an educative device, Baldwin found that, while learning by the auditory route had only slight superiority over the visual, the listening function was of particular importance in learning. It had been determined that in learning thru communicative situations, an individual spends 42 per cent of his time in listening, as compared to 32 in talking, 11 in writing, and 15 in reading.

The radio learning situation was not found to be superior to the teacher-student situation. The function of the radio was to increase interest by the addition of variety and supplementary information. It was quite possible for radio curricula to be fashioned upon the principles of learning.
and it had been demonstrated that a majority of subjects could be taught effectively by radio. Subjects taught by radio ranked in the following order as to effectiveness: current events, geography, nature study, social studies, music, health, literature, sciences, mathematics, and foreign languages.

Baldwin did not feel that radio had been satisfactorily adapted to the task of disseminating culture. He believes, however, that in order to supply adequate radio curricula for classroom use the same sort of philosophic and psychologic planning which we accord to other education will be necessary.

Radio can be classified as a classroom method and as such ranks third among other methods, first rank being given to projects or individual methods of study, and second to student evaluation of materials, oral reports, problems, and individual instruction.

Taking up the administration of radio curricula, Baldwin concluded that in order for radio curricula to be supplied on dependable bases it will be necessary for the control of broadcasting to be shared with those who seek to propagate culture. The major responsibility for radio curricula was assumed by national networks, which, being organized for profit, "are hardly in a tenable position to render dependable educational service on a universal scale." He recommended that federal and state authorities should
participate in the direction of radio in order to insure adequate and educationally sound radio curricula for all classrooms. He also recommended that there should be in each state one or more powerful non-profit state-owned broadcasting stations available to all state educational agencies.

In order that school and radio schedules might be correlated, the crying need was for broadcast regularity and advance information.

The practical sound system for the average school, according to Baldwin, was a combination of radio, phonograph turntable, and microphone, with a loudspeaker in each room. For such equipment he estimated the cost for a twenty room building as $57 per room, for forty rooms, $37, and for sixty rooms, $27. He points out particularly that the utility of the radio is six times its cost.
CHAPTER TEN

HEALTH
This thesis was an attempt to discover what the Catholic schools of Montana were doing in health education, and to what extent they were doing the work. A questionnaire was sent to all Catholic schools in the state during the year 1931, and ninety per cent answered.

The first chapter defined health education as being all which has a favorable influence upon the individual.

The author of this thesis, in the chapter on school hygiene, found that the various school plants had facilities for the health protection of the child so far as the buildings and equipment were concerned. Underweight children were taken care of in most of the schools. The playgrounds were protective, but a few were too small and this was taken care of by its alternate use. Clean school buildings and premises were usually the case.

The grade school children were given instruction in hygiene and safety, and the work was carried on into the high school where it was correlated with several of the high school subjects. There was great insistence on personal hygiene.

Home nursing and care of the sick received the least attention. Health reference and bulletins were used. The
latter received the most attention. Little was done in re-
gard to lisping and stuttering. Three fifths of the schools
required satisfactory progress in health habits for promo-
tion.

Health supervision was neglected. It was recommended
by Eli that there should be in each school at least one
teacher-nurse, that is, a teacher specially trained in child
health work, whose duty it should be to take care of all
these things.

The schools had directed activities during recess,
and the gymnasiums were used for up-building purposes.

The investigation showed that as a whole the health
education situation in the Montana Catholic schools was for
the time being satisfactory. Although this work was not
so well organized, a reasonable amount was being done.
STATUS OF THE HEALTH PROGRAM IN MONTANA HIGH SCHOOLS.


This study has two objectives: first, to determine the status of the essential features of the health program in the high schools of Montana, with particular reference to Health Service and health Instruction, second, to compare this status, whenever possible, with the procedures generally recommended by authorities. Particular comparisons will be made with the data compiled by the National Survey of Secondary Education on the Health Program.

Experts in the field of education agreed that health was the most vital field in education, and the high school health program had been neglected more than that of the elementary. This study was to determine the status of the health program in the high schools of Montana. The study depends principally on the questionnaire, although professional literature, and official records were referred to. One hundred high schools participated in the survey.

There was no definite health program in the majority of Montana high schools. Only twenty-two per cent reported a definite health and physical education program.

The agencies which contributed most frequently to the health program in Montana were the local Board of Education, the Red Cross, the County, and the Boards of Health.

either state or local. This survey showed that high schools were delegating most of the health work to agencies outside of the school. The Red Cross and the county contributed twice as much as the Board of Education.

The physical education instructor, the nurse and the classroom teacher were reported doing most of the health work in high schools.

Many schools violated the state laws in regard to fire drills. The value of fire drills was doubtful, and fire escapes were considered hazardous and a menace rather than a further means of safety.

Seventy-eight per cent of the schools co-operated with the parents in the matter of health. The co-operation was merely sending home reports, and there was very little or no follow-up work.

A very small percentage of the schools reporting kept records of the child's health, and the few that did kept inadequate records.

There was very little attention paid to teacher health. A health certificate had to be secured before a teaching certificate was issued, but this examination in most cases was cursory that it was valueless. Schools which try to ascertain the health of the teachers during service depended on the superintendent to guess at the condition. The estimate was usually valueless and might cause harm.
Forty-five per cent of all the Montana high schools grant sick leave at full pay. The median number of days allowed is five.

Sixty-six per cent of the high schools provided some type of physical examination. It was usually once a year and was compulsory, and included eyes, throat, teeth, ears, weight, and height.

Only fifty-three per cent of the schools required their athletes to be examined. In many cases this was done only once during their stay in school. The greatest offenders were the smaller high schools. In about fifteen per cent of the high schools defects that were found were corrected. This was usually done by clinics or the county, and was available only to relief clients. The Indians received more clinical assistance than the whites.

Most of the high school principals considered their health program poor.

The following recommendations were made:

A state director of health should be provided.

A trained director of health in each school is desirable.

The community should be educated.

There should be strict enforcement of quarantine law.

There should be a larger administrative unit.

There should be a minimum program of health.

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There should be physical examinations of participants in interscholastic sports.

Schools should assume the responsibility for health services.

There should be a state program of special classes for defectives.

A study of the value of fire drills should be made.
CHAPTER ELEVEN

COUNTY SUPERINTENDENT

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This study was to determine the status of the county superintendent in Montana. The office was created over sixty years ago, the duties set forth, and the additions made by the legislature at various times. It was not until the passage of the constitutional amendment in 1923 that any qualifications other than for all county officers were required. Now, in addition to the general qualifications, it is necessary for the aspirant to the office to be the holder of a state certificate.

The duties of this office might be divided into educational duties and non-educational or clerical. The clerical duties far outnumbered the educational, and therefore the work of improving the schools was neglected. The executive powers were not many, but were of a type that made the position a precarious one, because no matter how fair and judicious the decisions were, someone was going to be offended and enemies made.

The administrative load was far too heavy in all of the counties. There was very little assistance provided, and in some of the counties, none at all.

Due to the legal requirements, all of the superintendents
were holders of certificates. All four certificates were in evidence, some having one kind and some another. The elementary life was the one held by the greatest number.

In scholastic preparation, twenty-eight had two years, eighteen had three years, and nine had four years of advanced training. The arithmetical mean was 2.67 years. Thirty-three had no training other than academic. Seven had training in special fields. About half of them had engaged in work other than education.

The county superintendent was not too well prepared in supervision. Only eighteen reported any supervisory experience previous to their election. The others were gaining theirs in office. Forty-seven had experience in teaching rural schools. This was most valuable, but because of the small high schools they were sometimes required to supervise, some high school experience was important.

The tenure of office was only 2.63 terms. This made for inefficiency and also was a stumbling block because the best qualified would not seek the office.

There were eleven men and forty-five women superintendents. This was the largest number of men since 1919.

The salary depended upon the class of the county, the first being $2400, the next $2000, and the last group $1800. There was no correlation between the amount of salary received and the training. The average salary was $1904.16, which
was $500 under the average for the United States.

It was recommended that some sort of administrator's certificate be adopted.
THE COUNTY SUPERINTENDENT AND RURAL SUPERVISION.

This thesis was not on a Montana problem and is not being reviewed. It is merely reported for the information of students who use this thesis as a guide in their research work. It is a problem that might be of interest to some.
This study was an attempt to work out an effective method for teaching reading to defective children.

Mental defectives had been studied until most states now had an institution to which they may be admitted. Many states had private institutions also.

The three types of schools are: first, one emphasizing intellectual work and some manual training, second, one emphasizing manual training and some work in the three R's, and third, one giving training in industrial work only.

The opportunity room was not a cure-all, but was better than keeping the child in regular classes.

Feeblemindedness is a state of mental deficiency. The defective cannot perform duties as a member of society.

Sixty-six per cent of feeblemindedness was due to heredity; neuropathic conditions accounted for thirteen per cent; accident and divorce caused sixteen per cent, and the rest was due to unknown causes.

The only difference between normal and subnormal is one of degree.

Differences in opinion in regard to earning ability of defectives might be explained by the fact that sometimes the high grade moron was not included in every experiment.
The problem of the retarded child was the concern of many agencies, and all should have co-operated in solving the problem.

Special schools and classes for mental defectives be maintained. It was unfair to steal time from the normal child. The subnormal was happier when in a group where he could succeed. Capacities of the subnormal were like the normal, but less in quantity. They followed the same path of learning but at a slower pace, and learned more rapidly by an activity program. Patience and sympathy were necessary.

The second part of this thesis dealt with classroom work and a testing program conducted at the State Training School for mental defectives at Boulder.

The experimental group showed marked improvement. The group with an I. Q. of 56 showed only two points, while the group with an I. Q. of 92 showed thirty-one points on the reading test. This indicated possibilities.

There was no particular method for teaching reading, but newer methods seemed more successful. Adequate equipment was essential. The child must have a desire to read well, and the work must be made interesting.

Thirty per cent of the children in the Training School had some speech defect. The children with this defect were nervous and anemic.
Speech and breathing exercises were given, and posture was stressed.

Word-blindness is a defect in the brain, and often a cause of not being able to read.

Mental defectives must be kept busy, and the work must be presented as play. The reading lesson must be motivated. A low I.Q. does not always necessitate poor qualitative and quantitative achievement in reading. If the physical defects are cured, good food furnished, sleep and good hygienic habits learned, a subnormal child can read if the lesson is made interesting.

There were six case studies listed, and if interested, the original thesis should be consulted. There was also included a very comprehensive library book list for the first two grades.
The aims and objectives of this thesis were to discover the status of education in high school chemistry. The questionnaire was used to secure the data, along with the principal's reports in the office of the state department.

All first class district high schools taught chemistry, while only 37 per cent of third class district high schools did. Considering all the schools, 54 per cent taught chemistry. All but three of the county high schools taught chemistry.

About 8.5 per cent of all Montana high school students took chemistry. This was rather surprising. A larger per cent of students in first class districts took it than in any of the other districts. The number of students enrolled in chemistry in Montana compared favorably with the country as a whole.

Approximately three out of ten juniors and seniors in high school's teaching chemistry were enrolled in the subject. Little was done by the principals to encourage or discourage enrollment in chemistry. Students should be taught the importance of the subject and the bearing it has upon the lives and activities of the people.

General science should be a prerequisite for chemistry.
Chemistry and physics were alternated in most of the small schools in Montana. This was the only practicable method of procedure.

The number of failures in Montana was not excessive. It was small considering that no effort was made in guidance. Montana students made a better showing than students of Missouri and Nebraska.

Teachers determined the achievement of their classes as proposed by the committee on reorganization of science. They achieved success in moderate to considerable amount for their classes as a whole.

Eleven per cent indicated success to a small or negligible amount; nineteen per cent indicated marked achievement, and one third indicated moderate achievement.

Greatest success was had with objectives that may be termed "the intangibles". Greatest emphasis was upon the cultural aspects of the subject.

Objectives and aims of teachers were indefinite and lacked validity. Teachers seemed convinced that they were doing a good job of teaching chemistry. Much could have been done to achieve the social aims of education in chemistry.

There was little agreement as to the desirable outcomes of laboratory instruction. There was a close correlation between the outcomes of laboratory instruction in Nevada and Montana.
The Montana teachers of first and second class district schools and county high schools seem to rank a little better than Texas teachers in the matter of being graduated from schools of high rating, but the teachers of the State of Montana as a whole may be considered to rank slightly below those of Texas. 1

Teachers of chemistry in Montana had better preparation in education, chemistry, physics, and mathematics than those in Nebraska and Nevada. They were more poorly prepared than those represented in the committee on chemical education report. Forty-nine per cent of the teachers had chemistry for a major or minor. Teachers in Montana were deficient in majors to a greater extent than those of other states.

Preparation was good in the related subjects.

Two years of science should be required for graduation.

A greater effort should be made to determine the aptitude of students before they were enrolled in chemistry. A major or minor in chemistry should have been required of all who taught the subject.

Provision should be made whereby teachers in service and those preparing for teaching could take a course in methods.

The individualized plan of work should be used extensively, and greater use of visual education was recommended. The state course of study should be revised. Every school should have the Journal of Chemical Education and the six volumes published by the American Chemical Society.

CHAPTER THIRTEEN

STUDENT FINANCE
A few years ago the writer witnessed an incident in one of the high schools of the state which raised a number of queries resulting ultimately in this investigation.

A student earning all of her own expenses in high school as a waitress in a local café approached her assembly teacher and asked respectfully if she might not pass out at the head of the line of students at noon. She explained that she wished to reach her place of work ahead of her customers. The granting of the request involved nothing more than changing her seat to one nearer the door. The teacher’s refusal was curt and to the point: ‘We are not recognizing jobs here. If your outside work interferes with your school work, you must choose between the two’.

The investigation was carried on in thirty-nine schools in Montana. It included three first class district schools, six second class district schools, twelve third class district schools, and ten county high schools. There was a total of 3,499 students, 702 of whom were earning all or part of their school expenses. The working students formed 7.39 per cent of the total attendance in the schools studied.

The total attendance of 4,441 in schools of the first class district showed 150 boys and 116 girls, a total of 266 students who were earning part or all of their school expenses. In the schools of the second class districts, out of a total

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attendance of 1,059, 46 boys and 39 girls, or a total of 85 students were earning a part or all of their expenses. In schools of third class districts, out of a total of 637 students in attendance, 36 boys and 32 girls, or a total of 74 students were earning a part or all of their expenses. In the county high schools with 3,632 in total attendance, 81 boys and 127 girls, a total of 208 students, earned all or part of their expenses. The working students represented an average of 7.73 per cent of the total attendance.

The survey included 313 boys, 322 girls, and 67 whose sex was not specified in the data received. The range ran from no one working in Rosebud to 152 in Great Falls.

The percentage of working students in comparison with the total attendance ranged from 0.00 per cent in Rosebud to 55.55 per cent in Cohagen. The age distribution lay chiefly between fifteen to eighteen years for boys, and fourteen to eighteen years for girls. The range of total attendance ran from twenty-one students in Venanda to 1,887 in Great Falls.

A total of 176 students earned all of their expenses in high school. There were 427 students that earned part of their expenses.

The median number of hours of work per week for boys was twenty-three, that for girls twenty-eight. Most of the boys got eight to nine hours of sleep, while most of the girls got from seven to nine. The study ranged from none to six.
hours a day for boys, and that of the girls from none to seven hours per day.

Twenty-one boys have carried less than the normal load; sixty-six carried more. Fourteen girls carried less than the normal load; fifty-five carried more.

The recreation time varied from none to six hours for the boys; that of the girls varied from none to four hours.
CHAPTER FOURTEEN

HISTORY
The Development of Public Secondary Education in Montana Prior to 1920.


The purpose of the study was to trace the development of public secondary education as it evolved in Montana from the dawn of educational effort in the pre-territorial period to the end of the third decade, or up to the year 1920. This period comprised about six decades of educational development. After the development of educational effort was traced in its earliest stages, the study attempted to rate all phases of the common school development that in any way contributed to the origin and development of public secondary education, and to follow the evolution of the public high school in its important aspects from its territorial origin through three decades of statehood.

The data were secured from the Laws of the Territory and State of Montana, House and Council Journals of Territorial Legislatures, reports of the State and Territorial Superintendents, reports of the Montana State Board of Education, messages of Territorial and State Governors, reports of County Superintendents, newspapers and periodicals, and personal interviews.

Montana's educational beginnings immediately preceded the establishment of Montana Territory in 1864. They ranged
from the first venture in the trading post of Owen, near Stevensville, in 1861, to more ambitious efforts of tuition schools held in homes of private citizens.

The common schools developed during the territorial period and at the end of the period there were 761 districts with 314 buildings with almost a million dollars property evaluation, and 531 teachers serving 27,821 children.

Public high schools had their origin in the territorial period evolving from the common elementary school. The first high school was established at Helena, in 1876. It was a three year school. The first four year course was introduced in 1880. There were twelve communities with high schools when Montana became a state.

From 1889 to 1899 there was very little growth and the first decade is considered in its principal aspects a continuation of the territorial period.

The first significant legislation pertaining to high schools was the enactment of the free county high school law of 1899.

County high schools showed the greatest development during the second decade. District high schools were looking for new means of support.

During the third decade, 1909-20, the development of secondary education reached its peak of expansion. The expansion was principally in the number of high schools es-
ta\text{blished} and the number of pupils enrolled. At the close of the third decade there was every indication that there would be continued progress in public secondary education with a possibility of intensified interest in many phases that were still in their infancy.
CHAPTER FIFTEEN

APPENDIX

LETTERS RECEIVED FROM UNIVERSITIES.
Grand Forks, No. Dak.,
December 27, 1938.

Mr. Harry M. Ross,
Missoula, Montana.

My dear Mr. Ross;
As far as I recall we have no theses dealing directly with Montana educational problems.
Our graduate studies for the most part have dealt with problems in North Dakota and northwestern Minnesota.
We of course have some problems that would be in common with those of Montana.

Sincerely yours,

J. V. Breitweiser,
University of North Dakota.
Madison, Wisconsin,
January 3, 1939.

Mr. Harry M. Ross,
Missoula, Montana.

My dear Sir:

Your letter addressed to the Chairman of the Graduate Committee, regarding educational theses, has been referred to this office.

We publish no check list of our graduate theses. The librarian of the University of Montana should be able to show you the bibliographies issued by the United States Bureau of Education.

Very truly yours,

Gilbert H. Doane, Director,
Library of the University of Wisconsin.
New York City,
December 30, 1938.

Mr. Harry M. Ross,
Missoula, Montana.

Dear Sir:

I have your letter of December 19. It is not possible for us to send you a list of our graduate theses. While we do print a list each year, we do not have copies of back numbers for distribution at this time.

In the Library of the University of Montana, you should be able to secure a file of the printed list which we issue each year of our Master's Essays, and in the Library, you should also be able to find the lists of Doctoral dissertations published from year to year in recent years by the Association of Research Libraries and formerly by the Library of Congress. There are also various listings of dissertations in the field of education.

I think your best reliance will be the Reference Librarian at the University of Montana. If she does not have our lists, I would suggest that she let us know what she needs.

Sincerely yours,

C. C. Williamson,
Director of Libraries,
Columbia University.
Greeley, Colorado,
January 4, 1935.

Mr. Harry M. Ross,
Missoula, Montana.

My dear Mr. Ross:

I have had my secretary look up the master's theses dealing with Montana, and it appears that we have none based specifically on the educational problems of that state. There are two field studies by Charles D. Deen of Easter Montana State Normal School which deal with reading readiness of first grade children and the value of the Seashore Tests of Musical Talent in predicting success or failure of students entering the normal school at Billings.

If you care to read either of these studies, they may be sent to your school library through inter-library loan. In case you care to send for them, you should write directly to Dr. Earle U. Rugg, College Librarian.

Sincerely yours,

A. F. Zimmerman,
Chairmen of the Graduate Council,
Colorado State College of Education.
Mr. Harry M. Ross,
Missoula, Montana/

My dear Mr. Ross:

I am sorry that I do not have an up to date list of the Master's theses written at the University of Minnesota which I can send you in response to your request of December 19. However, I shall try to send you the name of the Master's theses that have been written here that relate to educational problems in Montana.

Sincerely yours,

M. G. Neals, Professor
Educational Administration,
University of Minnesota.
Denver, Colorado,
December 29, 1938.

Mr. Harry M. Ross,
Missoula, Montana.

Dear Mr. Ross:

I have your letter of December 19 in which you request a list of our graduate theses.

We do not have any published list of theses available for distribution. If you care to pay for the clerical services necessary to prepare such a list from the data in our files, we shall be glad to have a list prepared. I am not sure what the total cost would be, but by using student help at thirty-five cents per hour, I imagine a reasonably complete list could be prepared for about five dollars. If you care to submit this amount we will put someone on the job and return any unused portion of the money, with a statement of the time involved, along with the list.

Very truly yours,

Alfred C. Nelson, Dean,
University of Denver.
Eugene, Oregon,
January 10, 1939.

Mr. Harry M. Ross,
Missoula, Montana.

Dear Mr. Ross:

We do not have available an extra listing of our graduate theses. However, there seems to have been done, here, nothing on any educational problems of Montana; and we are sorry that we cannot be of service to you.

Very truly yours,

M. H. Douglas, Librarian,
University of Oregon.
Moscow, Idaho,

Mr. Harry M. Ross,
Missoula, Montana.

Dear Mr. Ross:

We do not have available an extra copy of all the theses which have been presented by candidates for advanced degrees at the University of Idaho. However, as soon as possible, I shall have someone go through the lists which we have and copy the titles of any which may deal with school questions pertaining to Montana. This list will then be mailed to you. If you do not hear from us within a few days, you may conclude there have been no such theses presented at the University of Idaho.

Very truly yours,

C. W. Hungerford, Dean
of the Graduate School
Stanford University,
California,
February 24, 1939.

Mr. Harry M. Ross,
Missoula, Montana.

Dear Mr. Ross:

In reply to your question relating to theses on Montana educational problems, our education librarian has given me record of two theses which we note below.

I am sorry for the long delay in replying.

Sincerely yours,

Alice N. Hays,
Reference Librarian.

Note:

Moser, Wilbur E.,
The Placement Bureau in the Montana Education Association.
_Education, A. M. 1933/34._

Kranz, George A.,
Montana High School Libraries.
_Education, A. M. 1936/37._