

T H E S I S

A SURVEY OF EDUCATIONAL OPPORTUNITIES IN GRAND,

CLEAR CREEK AND JACKSON COUNTIES,

COLORADO

Submitted by

Wallace T. Ferrier

In partial fulfillment of the requirements

for the Degree of Master of Arts

Colorado Agricultural College

Fort Collins, Colorado

August __ , 1930.

LIBRARY OF THE
STATE AGRICULTURAL COLLEGE
FORT COLLINS, COLORADO

37278E
A.D.
1930
9

2.

COLORADO AGRICULTURAL COLLEGE

GRADUATE WORK

1930

I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER
MY SUPERVISION BY WALLACE T. FERRIER
ENTITLED A SURVEY OF EDUCATIONAL OPPORTUNITIES IN GRAND,
CLEAR CREEK AND JACKSON COUNTIES, COLORADO.
BE ACCEPTED AS FULFILLING THIS PART OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF ARTS.

In Charge of Thesis

Wargent
Head of Department

Recommendation concurred in

Wargent
Geo. T. Avery
D. F. Coen
W. H. ...
H. ...

Committee on
Final Examination

Approved by

W. H. ...
H. ...
W. H. ...

Committee on
Advanced Degrees

FOREWORD

Many residents of mountain countries are confronted with the question as to whether or not they shall educate their children in the local schools or send them away to public or private schools which offer greater educational opportunities.

The writer of this thesis has been confronted with exactly this problem. His own children have been reared in a mountain county and sent to the local schools. As a teacher in two of the schools in Jackson County, Colorado, he has become familiar with some of the school conditions which the teachers of the rural schools in mountain counties face. As a member of the local school board and of the board of county commissioners he has become acquainted with the conditions influencing the administration of schools in Jackson County and to a lesser extent with the school situation in neighboring counties in Colorado.

For these reasons the writer believes himself to be qualified to make an investigation of educational opportunities in Jackson, Clear Creek, and Grand Counties, Colorado. It is hoped that the results of this study may be of use to those in charge of the administration of schools in mountain districts.

ACKNOWLEDGMENTS

The writer wishes to acknowledge the assistance of teachers, of secretaries of school boards, and of county officers of Grand, Clear Creek and Jackson Counties who granted interviews or furnished material essential to this study.

Further acknowledgment is due the State Superintendent of Public Instruction of Colorado for maps, records and information made available, and to county superintendents, Mrs. Riddle of Jackson County, Mrs. Traber of Grand County, and Mrs. McAdams of Clear Creek County, for interviews granted, for questionnaires returned and correspondence answered.

TABLE OF CONTENTS

	Page
I. INTRODUCTION.	6
1. The Problem Stated.	6
2. Objectives.	7
3. Method of Procedure.	7
II A STUDY OF THE EXISTING ELEMENTARY EDUCATIONAL SITUATIONS	9
1. Geographic Factors.	9
2. Economic Conditions.	22
3. Social Conditions.	24
4. Elementary School Conditions.	26
III AN ANALYSIS OF THE EXISTING ELEMENTARY EDUCATIONAL SITUATION AND SUGGESTIONS FOR IMPROVING ELEMENTARY EDUCATIONAL OPPORTUNITIES.	46
1. Consolidation of Instruction Centers.	47
2. Consolidation of Administration.	54
3. The Tax Situation.	64
IV A STUDY OF THE EXISTING SECONDARY EDUCATIONAL SITUATION.	69
1. Geographic Factors.	69
2. Economic and Social Conditions.	70
3. Secondary School Conditions.	70
V AN ANALYSIS OF THE SECONDARY EDUCATIONAL SITUATION AND SUGGESTIONS FOR IMPROVING SECONDARY EDUCATIONAL OPPORTUNITIES.	79
Conclusions.	84

A SURVEY OF EDUCATIONAL OPPORTUNITIES IN GRAND,
CLEAR CREEK AND JACKSON COUNTIES, COLORADO.

CHAPTER I.

INTRODUCTION.

THE PROBLEM STATED

Provision of adequate educational opportunities is a matter of vital concern to residents of mountain districts. Undivided home life in many cases is dependent upon the ability of the local school district to furnish satisfactory school opportunities.

The basis of this study was a thorough investigation of the educational conditions in Jackson, Grand and Clear Creek Counties in Colorado. One mining and two agricultural counties were selected in order to represent, in approximate proportion to their importance, the chief industries of mountain counties as well as to represent the living conditions which are typical of such districts. From the standpoint of climate and density or sparseness of population, as well as from the standpoint of industrial activities, the writer believes these counties to be representative of mountain counties of the state. The writer selected Jackson County for this survey, because he has resided in that county for approximately twelve years.

The problems in each case were threefold, namely:

- (1) To gather information,
- (2) To analyze conditions,
- (3) To formulate conclusions which would be of assistance in improving the educational opportunities offered to pupils in mountain communities of this state.

The subject matter is so broad in scope that only the major conditions which influenced educational opportunities in these counties have been presented in this study.

OBJECTIVES

For its specific objectives this study has attempted:

- (a) To study the existing elementary school conditions in these counties and to make suggestions for the improvement of these conditions.
- (b) To study the existing secondary school conditions in these counties and to make suggestions for the improvement of these conditions.

METHOD OF PROCEDURE

An attempt was first made to obtain the information needed for this study by questionnaires, but the response was unsatisfactory. A personal inspection was then made of schools in districts 1, 3, 4, and 6 in Jackson County, of schools in districts 1, 2, 5, 14, and 19 in Grand County, and of schools in districts 1, 3, 4, 5, and 6 in Clear Creek County. The three county superintendents and three assessors of these counties were interviewed. Nine secretaries of school boards, who were visited,

contributed records or information^{8.} Seven teachers in Jackson County, two teachers in Grand County, and two in Clear Green County were interviewed, and the classroom work of six of these were observed. The other schools mentioned were not in session when visited, and no other classroom work could be observed. Further records and data pertaining to the educational opportunities of the three counties studied were obtained from the office of the State Superintendent of Public Instruction.

CHAPTER II.

A STUDY OF THE EXISTING ELEMENTARY EDUCATIONAL SITUATION.

1. GEOGRAPHIC FACTORS.

As education is an adjustment to life so living is an adjustment to the forces of nature. A study of the geographic factors which influence living in Jackson, Grand and Clear Creek counties is a natural point from which to begin a study of the educational opportunities in these counties.

MAP.

Some information as to the location and general features of these counties may be gained from the map on page 11. The counties studied have been outlined in black, and the Victory highway from Denver west as far as Steamboat Springs has been sketched in. Mountain ranges and important rivers have been named, and some of the more important towns have been indicated.

PHYSICAL FEATURES.

The Continental Divide bears an intimate relation to each of these three counties. It forms the western and southern boundaries of Jackson County, the northern and eastern boundaries of Grand County, and the western boundary of Clear Creek County. Except during summer when the mountain passes are open, the Continental Divide forms an effective barrier as well as a boundary between these counties.

The name, Clear Creek, ^{10.} suggests a reason for the irregular boundaries of this county. The watersheds of Clear Creek make up its area. In similar manner the upper drainage basin of the Grand or Colorado River comprises the territory of Grand County and the head waters of the North Platte River determine the boundaries of Jackson County.

With high irregular hills to the north, the rugged Medicine Bow Range on the east and the Continental Divide on the west and south, Jackson County is a real mountain park. Within this park, whose area is nearly a million acres, are wide stream valleys and natural hay meadows separated by bluffs and table lands. The mountain slopes surrounding the park proper are wooded, but there are only shrubby willows and an occasional grove of aspen trees in the central area. Swift streams, which descend the mountains on all sides of North Park flow across the basin of the park and unite near its center to form the North Platte River.

In contrast to the open territory of North Park, Clear Creek County has scarcely enough open land for a townsite. Narrow stream valleys and rugged mountain sides, timbered near the Continental Divide and sparsely timbered in the lower altitudes, comprise the entire area of the county.

The surface of Grand County is a compromise of the opposite types found in Jackson and Clear Creek Counties. Open table lands and fertile stream valleys exist, but they are not large as in Jackson County, while mountains instead of bluffs form the divides between the streams.

NATURAL RESOURCES

Jackson County, as its description suggests, contains large areas of irrigable land. Due to its climate, however, production is limited to native hay and some of the hardier small grains. Some of the most productive land in Jackson County is to be found on the lower slopes of mountains which surround it. The county has immense beds of coal, but this coal is of sub-bituminous character and is not enough better than coal mined at more accessible points in Colorado and Wyoming to warrant further development under present conditions. The County has a possibility of oil production. Wells already constructed have tapped a large reservoir of carbon dioxide containing small quantities of a high grade crude oil. Further development of the industry, however, must wait for the invention of a profitable method of separating the oil from the carbon dioxide. Timber resources may be counted upon to continue to support from 50 to 100 men for many years.

Clear Creek County, depending almost entirely for its industry upon metal mining of ores containing silver, gold, zinc and lead, has lost heavily in taxable wealth through the lowering of metal values. Silver, the principal metal mined in this County, has been particularly affected, and there is little prospect for improvement of the situation.

Grand County, like Jackson County, has experienced several mining booms, but the minerals found have not justified a sustained development. The altitude is less than that of Jackson County, and irrigated land, possessing higher agricultural value, should sup-

port a denser population. ^{13.} However, the amount of waste land is greater, and the amount of irrigable land less per unit of area so that the sparseness of strictly rural population is approximately the same in these two counties.

Non-producing mineral claims become a valuable asset upon the tax rolls of all of the counties studied. Their assessed valuation is as follows:

Clear Creek County	\$1,432,735.
Grand County	88,280.
Jackson County	14,780.

Federal forest reserves are among the minor natural resources found in all of these counties. They yield a direct though small income to the general school funds of each county. More important is their ability to supply summer pasture to the herds of cattle and sheep which are essential to the prosperity of Grand and Jackson Counties.

The ability to attract tourists is a natural resource of considerable value to all of the counties studied. Idaho Springs in Clear Creek County and Hot Sulphur Springs in Grand County maintain themselves largely through catering to tourists and health seekers. Sportsmen contribute to all sections of these counties for fishing privileges and living accommodations, while owners of summer homes add thousands of dollars to the taxable wealth of these counties.

CLIMATE

Perhaps no one feature presents a greater obstacle to efficiency in education in mountain counties than does climate. The factors

of altitude, wind and rain or snowfall are chiefly involved. With the exception of Idaho Springs in the eastern part of Clear Creek County, all of the communities studied have an altitude of from 7,500 feet to 8,500 feet. In this respect the counties studied are probably only typical of Colorado counties which are bordered by the Continental Divide.

The presence of wind makes winter temperatures in these counties more difficult to endure. Due to its open nature Jackson County is most affected by wind, Grand County next, and Clear Creek County the least affected. These counties are not visited by periodic and cyclonic storms more frequently than ^{non-mountainous} sections, but the atmospheric disturbance is greater, and the higher wind velocity makes them more severe.

Accumulating snow is an important factor in winter climate. In Jackson County the average winter accumulation of snow is approximately one foot. Whipped by winds which are especially persistent during January, February and March, hillsides are blown bare, while fences and snow-trails are buried in the drifts. With less wind there is less difficulty with snow in Grand County, while in Georgetown and Idaho Springs, due to light winds and less precipitation, there is no accumulation of snowfall.

In that part of these counties between the less populated, higher altitudes, next to the Continental Divide, and the lower altitude of Idaho Springs, there is found a pleasant summer and fall climate, but a winter climate in which children cannot travel far to school; in which oftentimes they cannot be asked to play out

of doors, and during which it is difficult to maintain proper temperatures in the school room.^{15.}

TRANSPORTATION

School attendance and possibilities of consolidation are affected by facilities of transportation which involve railway and highway travel.

Each of the counties studied is served by a railroad, but the permanence of this condition is not assured. The Laramie, North Park and Western Railway furnishes tri-weekly combination freight and passenger service to Jackson County. This railroad is not paying interest on its bonded indebtedness, and a petition to abandon winter operation was filed with the Interstate Commerce Commission in 1926. Because of drifting snow and lack of business, daily train service is not attempted in winter months. Train service is less permanent in Clear Creek County, because the railroad is paralleled by an excellent highway. Tri-weekly freight service barely maintains the existence of the road. Request for the use of its right-of-way for a scenic automobile highway may lead to early abandonment of rail service. The Moffat Road in Grand County apparently is in process of becoming a part of a transcontinental system. Since the completion of the tunnel, winter operation is not too difficult, and there is sufficient business to warrant frequent passenger service.

Considering their location, Grand, Clear Creek, and Jackson Counties are very fortunate with respect to highways. Left to their own resources of taxable wealth, they would be unable to

maintain good roads within their ^{16.} own counties, and would not attempt to cross the mountain passes which isolate the counties from other districts. However, their boundaries contain mountain passes which are important to trans-state and trans-continental travel, both from east to west and from north to south. Consequently, federal and state, as well as county, road funds have been used to build and maintain these roads. The Victory highway as far as Berthoud Pass, together with the Ocean to Ocean highway, which branches from the Victory highway a few miles below Georgetown to cross Loveland Pass, connects every community in Clear Creek County with roads which are kept open to the east throughout the winter.

There is no winter outlet to automobile travel from Grand or Jackson Counties in any direction. The Victory highway, which leaves Clear Creek County at Berthoud Pass, crosses Grand County, and the southwest corner of Jackson County, but because of the altitude of Berthoud and Rabbit-ear Passes, snow blockades this highway for several months of each year. Reference to the maps on pages 13-16 shows that, except in the most severe weather, the state highways placed for trans-state travel are most favorably located for local travel. An adequate system of local roads is also indicated. These, as well as the state roads, are for most of the year in excellent condition, and of themselves offer no handicap outside of distance to summer transportation of pupils for any school purpose.

Occasionally a part of the Victory highway in the central part of Grand County is kept open to automobile travel in winter,

17.
but normally there are two or three months of each winter in which there is no automobile travel between towns or community centers in the County. Much the same is true of Jackson County. The survey of schools in Jackson County indicated only one instance where pupils attempted to travel more than four miles to or from school during the months of severe winter. This travel was by team and sled. In the study of the three counties no bus transportation of school children was found.

It would seem that facility of transportation in summer in the counties studied is approximately equivalent to that of non-mountain counties and is adequate for any purposes of school centralization. Facility of transportation in winter in these counties is not adequate to consolidation programs which require transportation over distances of more than four to eight miles.

EARLY SETTLEMENT AND PRESENT DISTRIBUTION OF POPULATION

Most of the present community centers in Clear Creek County were active mining settlements when Colorado became a state in 1876. Georgetown claimed a population of ten thousand at that time. Today it has less than three hundred. Other mining centers, such as Lawson, Silver Plume, Dumont, and Empire also have but a small fraction of their former population.

The concentration of practically the entire population of Clear Creek County within the narrow valleys of Clear Creek and its two branches is a striking feature of this County. Large farms or irrigated ranches do not exist here, and the mines, unlike farms, do not require the enterpriser to live in the immediate

vicinity for successful operation. Since the railroad and highways also follow Clear Creek valley, this County does not illustrate the rural isolation of agricultural mountain counties.

Jackson and Grand Counties also owe their early settlement to mining activities, but such activities have practically ceased, and development of agriculture has taken their place as the leading industry.

Except for Coalmont, a coal mining settlement of 150 people, Jackson County is now typical of agricultural mountain counties. The establishing of a railroad has not affected the distribution of population. Walden, the county seat, is an incorporated village of approximately 200 people, and is located near the geographic center of the park or county. Two smaller centers, Rand and Cowdrey, each contain a post office, store, hotel and perhaps a half-dozen families. The remaining population live on ranches in the vicinity of the stream valleys threading the basin of North Park or on the lower slopes of the mountains surrounding it.

Grand County has a distribution of agricultural population similar to that of Jackson County. Its industrial group, however, is larger. Fraser and Tabernash are lumber camps, while head lettuce production near Granby has become a specialized agricultural industry and supports a considerable population.

The location of the chief centers of population in the Grand River valley in Grand County is similar to the distribution of population centers in Clear Creek County, except that the distance between centers is greater in Grand County. Ranch population in

Grand County is sparsely scattered over wide areas as it is in Jackson County.

The following table has been prepared to show the distribution of children of school age in the counties studied. The school district has been used as the unit and the figures as derived from the census returns from each district for 1929 form the third column. The name of the district is given in the first column, and its number in the second. The area of the district in square miles as given in the fourth column,^{is} computed from the third and fourth columns,^{and} represents the average number of children of school age per square mile of area, and^{so} indicates the sparseness of population. This table indicates a sparseness of school population averaging .29 child of school age per square mile.

TABLE I. DISTRIBUTION OF CHILDREN OF SCHOOL AGE.

District	Number	School Census	Area of dist. in sq. miles	Children per sq. mile
<u>Grand County</u>				
Sulphur Springs	1	54	50	1.08
Fraser	2	117	161	.73
Grand Lake	3	24	221	.11
Kremling	5	94	135	.70
Colorow	6	6	91	.06
Upper Wms. Fork	7	13	203	.06
Black Tail	8	15	113	.13
Hill Crest	10	10	140	.07
Muddy	12	17	164	.10
Willow Creek	13	11	138	.08
Granby	14	49	136	.36
Sleepy Hollow	15	18	90	.20
Tabernash	16	84	46	1.82
Lower Wms. Fork	17	42	112	.39
Troublesome	19	41	136	.30
Parshall	20	16	48	.33
Mt. View	21	10	17	.59

TABLE I. (continued).

<u>District</u>	<u>Number</u>	<u>School Census</u>	<u>Area of dist. in sq. miles</u>	<u>Children per sq. mile</u>
<u>Jackson County</u>				
Walden	1	130	252	.50
Coalmont	2	87	198	.44
Cowdrey	3	45	468	.10
Spicer	4	16	136	.11
Rand	5	22	288	.08
Haworth	6	19	180	.10
<u>Clear Creek County</u>				
Empire	1	24	53	.45
Georgetown	3	85	54	1.57
Dumont	4	13	14	.93
Idaho Springs		(omitted from study)		
Silver Plume	6	17	49	.35
Lawson	10	10	5	2.00
Brookvale	11	<u>14</u>	<u>88</u>	<u>.16</u>
	Total	1103	Total 3786	Average .29

2. ECONOMIC CONDITIONS.

The wealth per capita of school population is relatively high in all of the counties studied. In Clear Creek County this may be accounted for by large amounts of outside capital invested in mining enterprises within the county. As most of the mines are inactive, many families have gone to other communities, leaving the property investments to support a smaller number of children. The investment of taxable wealth in summer homes was mentioned earlier in this study.

The agricultural industries of Grand and Jackson counties comprise farming usually in connection with livestock production. Here the unit which can be operated by one man involves more capital than the simpler crop producing farm unit in other communities. The average sized ranch in Jackson County, according to the Colorado year-book for 1928-1929, is 809 acres and in Grand County 572 as compared to 146 acres, the average size of farms in the United States.

The agriculture of Grand and Jackson counties seems not to follow the rule that agriculture limited to ^{one} crop is most successful. Strictly defined, it is not ^{one-} crop agriculture. The enterpriser may sell the hay, or he may feed it to livestock. He may maintain a large herd of cattle for beef purposes, or he may make as large a profit from a small herd of dairy cattle. With this type of agriculture large, quick returns are not usual, but a steady accumulation is normal, and there are seldom the cases of extreme poverty which are common to industrial communities.

The head lettuce industry needs a brief mention. A half-dozen packing companies ship car lots of lettuce from Granby and several other companies have operated elsewhere in Grand and Jackson counties. This industry has increased land values in some districts, but as the crop is grown and practically harvested during the summer vacation months, the industry has a negligible influence upon school conditions.

Timbering, railroad, and tunnel activities in the vicinity of Fraser and Tabernash in eastern Grand County have for several years added a transient school population which has increased the cost and decreased the efficiency of the schools. Since all tunnel construction is nearing completion, and the population will shortly be much decreased, no special analysis of the school conditions at these places has been attempted.

Metal mining, as carried on in Clear Creek County and to a small extent in Grand and Jackson counties, offers comparatively steady employment. It differs in that respect from the coal mining industry of Jackson County which employs full force only three or four months of the year. There is, however, the continued retrenchment in Clear Creek County due to world-wide overproduction of silver. When the mines are closed unemployment increases, and property values decrease so that practically all residents feel the depression.

The variety of interests, then, portends economic stability in Grand and Jackson counties, while the eclipse of the mining industry has brought at least temporary economic decadence upon Clear Creek County.

3. SOCIAL CONDITIONS.

The social conditions of mountain communities limit the educational opportunities offered both from the standpoint of the quality of teaching furnished and from the standpoint of variety of extra-curricular and recreational activities made available to pupils. During periods of time when the supply of teachers is not greatly in excess of the demand, it is difficult to find experienced, successful teachers who are willing to accept the more meager social life of mountain communities. Even a larger salary does not compensate in the estimation of these teachers for the lack of religious, student, social or recreational activities with which they may associate themselves in more densely populated districts. There are some well-trained, experienced, and highly successful teachers who, chiefly on account of family relationships, prefer to teach in these mountain communities. In these instances, though the teaching is of secondary interest, the quality of instruction is generally superior to that of teachers less experienced and unacquainted with mountain community life.

Many ranch people who seldom leave their ranches show a breadth of mind and character and an acquaintance with current happenings which is not surpassed among city residents. The radio has had much to do with this, but the substitution of the weekly and monthly magazine for the daily paper is also a factor.

School pupils themselves miss the broadening influence of wider and more varied school contacts. Mountain communities are usually too small to divide themselves according to the tastes of

their members. Consequently, ^{25.} for much of the time recreation and entertainment must be of such a nature as will satisfy a majority of the people. This narrows the social life of such communities and, for those who plan intelligently for the future of their children, social opportunities are apt to prove unsatisfactory.

Because its population is concentrated in towns and centers which are only a few miles apart and are connected by good roads, Clear Creek County suffers least from the lack of interesting social life. Contacts with summer residents from other parts of the state and country add social opportunities so that in this respect Clear Creek County fares as well as more populated non-mountainous counties.

In Jackson County, Walden with its court house, church, elementary and high school, drug store, filling stations, two general stores and smaller enterprises, is the business and social center of the county. Kremling, Sulphur Springs and Granby in Grand County are similar centers, serving each a smaller territory. There is but one church in Jackson County. Grand County has three churches, and there are three churches in Clear Creek County outside of Idaho Springs. Religious and purely social organizations were noted in several villages. Georgetown boasts the third oldest Masonic chapter in Colorado. Woodman and Oddfellows, with their affiliated lodges, are represented in all of the three counties.

The social life of these centers, however, is not available to all of the surrounding territory. Outlying districts are

limited to neighborhood dances with occasional day or night-time excursions to the villages. The stimulation resulting from contacts with other schools and with other more widely experienced individuals is less felt in these communities than in more accessible and more densely populated communities.

4. SCHOOL CONDITIONS.

ADMINISTRATION OF SCHOOLS.

The following statement refers to all Colorado schools and therefore to those within Jackson, Grand, and Clear Creek counties. Colorado statutes do not permit the county unit of school district organization. Provision is made for the division or consolidation of districts, subject to the approval of the county superintendent and the will of the electors residing in the district or districts involved. Under the provisions of this act, union districts, consolidated districts and county high school districts have been created.

All districts are first, second or third class, the most evident difference being in the number of directors elected. Districts of the third class, those having a school census population of 350 or less, elect one director each year for a term of three years. They thus provide a permanent board of three directors. Districts of the second class, those with a school census population between 350 and 1,000, elect three directors in the same way and for the same term. Districts of the first class elect directors for a term of six years, choosing five directors when the school

census population is between 1,000 and 20,000, and seven directors when the school census population is more than 20,000.

No distinction is made in the powers of school boards on account of the class of the district. They hire or discharge teachers, fix the course of study and the kind of test books to be used and, in general, govern the schools of the district. Article 139 of the school laws of the State of Colorado defines these powers specifically. Anyone who is a resident of the district and who is 21 years old may become a school director. There have been directors in this state who were unable to read or write.

No other qualifications, except perhaps the ability to get votes, is required of the county superintendent. Her salary in Clear Creek County is \$1,200 and in Grand and Jackson counties \$1,100. As the term is two years, and the office is elective, it is usually necessary for each superintendent to carry on a political campaign every second year in order to continueⁱⁿ the office. County superintendents are required to keep records and to make an annual report to the state superintendent of public instruction, to fix and keep a record of school district boundaries, to visit the schools of the county, and to see that teachers and school officers carry out the school laws. County superintendents also apportion school funds according to the school laws of Colorado, and are permitted by these laws to hold county teachers' meetings when the interests of school work demand it. In the three counties studied the county superintendents make a practice of recommending suitable teachers to such boards of school directors as desire or permit this assis-

tance. No control is exercised over the expenditures of the different boards of school directors, over the school curriculum, the text books, or over the hiring and discharging of teachers.

SCHOOL FINANCES.

The Federal Government has made grants of land to each state for the purpose of establishing an educational fund. The expendable portion of these funds is made up of royalties and rentals from school lands, interest on the investment of money derived from the sale of such lands or mineral rights belonging to them and miscellaneous fines and taxes as prescribed by the separate states.

In Colorado an emergency fund is first set aside to provide for schools in districts which through some emergency would otherwise be unable to maintain schools. The remainder of the general school fund is apportioned among the counties of the state in proportion to their school census population.

Each county treasurer carries a special fund and a general school fund to the credit of each district in that county. The general school fund receives the apportionment from the state which is augmented by a percentage of certain fines and refunds of forest fees which accrue directly to the county. The total amount is approximately \$2.00 per pupil per year. By far the largest increment results from the operation of the Colorado minimum law. Each county is required to levy a tax sufficient to pay to each district \$75. for each month of school taught by a regularly employed teacher. This amount is apportioned by the county superintendent on the basis of the number of teacher-months of school offered by each district.

This general school fund can be ^{29.} used only for teachers' salaries. The remainder of each county general fund is apportioned among the districts in proportion to the school census population of each district.

The special fund of each district consists of whatever amount the board of school directors requests the county commissioners to levy against the property of their district for the maintenance of its schools. This fund is additional to the apportionment of the county general fund and may be used to pay the miscellaneous expenses incidental to the operation of the schools as well as to pay all or part of teachers' salaries.

Table II. shows the levy necessary to meet the minimum wage requirements in the three counties studied.

TABLE II. GENERAL SCHOOL FUND LEVIES.

GRAND COUNTY	JACKSON COUNTY	CLEAR CREEK COUNTY
3.76 mills	2.20 mills	3.00 mills
Average for the three counties		2.99 Mills

Table III has been prepared to show the inequality between the districts studied, in the rate of taxation, the amount of property wealth per pupil, the revenue required for each pupil, and the cost of education figured in expenditure per month per pupil.

30.
TABLE III. DISTRICT WEALTH, LEVIES, AND EXPENDITURES.

Dist. No.	Special M. Levy	Wealth Per Pupil	Annual Revenue Per Pupil	Expense Per Pupil Monthly
<u>GRAND COUNTY</u>				
1	\$ 8.30	\$16,622.00	\$137.96	\$14.70
2	7.20	7,266.00	52.31	21.83
3	2.98	60,357.00	179.90	15.06
5	9.26	10,374.00	95.96	16.17
6	2.10	150,622.00	316.32	59.20
7	3.00	15,478.00	46.43	11.73
8	3.70	28,023.00	103.68	24.29
10	4.30	3,903.00	16.78	12.77
12	2.10	35,467.00	74.48	14.58
13	2.80	19,158.00	53.64	19.87
14	3.25	13,657.00	44.38	6.45
15	1.70	21,301.00	36.21	14.69
16	8.70	4,839.00	42.10	9.49
17	6.10	12,595.00	76.83	8.31
19	3.60	24,244.00	87.28	10.52
20	5.60	8,237.00	45.13	6.99
21	10.00	9,690.00	96.90	16.63

TABLE III. (continued)

Dist. No.	Special M. Levy	Wealth Per Pupil	Annual Revenue Per Pupil	Expense Per Pupil Monthly
<u>JACKSON COUNTY</u>				
1	\$ 5.50	\$12,043.00	\$68.44	\$12.04
2	2.50	16,293.00	40.63	10.20
3	.50	19,449.00	9.72	13.49
4	1.50	35,327.00	52.99	16.89
5	1.25	51,750.00	64.69	16.64
6	.80	38,584.00	30.86	11.91
<u>CLEAR CREEK COUNTY</u>				
1	2.88	22,007.00	63.38	9.85
3	8.34	11,182.00	93.26	16.88
4	2.22	29,754.00	66.05	14.66
5	10.00	7,890.00	78.90	12.69
6	5.40	33,001.00	178.20	26.32
10	2.06	30,501.00	62.83	16.14
11	1.00	43,697.00	43.69	17.12
12	2.00	No pupils in district		00.00
19	1.00	99,235.00	99.23	21.00

EFFECT OF IRREGULAR ATTENDANCE UPON THE COST OF EDUCATION.

In preparing the following table the average monthly cost per pupil for maintaining elementary education in each county was first figured on the basis of enrollment of pupils, and second on the basis of attendance of pupils. The increase in cost due to irregular attendance is then shown both in actual amount and in percentage of increases.

TABLE IV.	Counties		
	<u>Jackson</u>	<u>Grand</u>	<u>Clear Creek</u>
Average monthly cost per pupil based on enrollment.	\$ 9.07	\$10.86	\$13.68
Average monthly cost per pupil based on attendance.	11.74	13.66	15.81
Increase in average monthly cost per pupil due to irregular attendance.	2.67	2.80	2.23
Percentage of increase in average monthly cost per pupil, because of irregular attendance.	29.	25.70	16.30

TABLE V. QUALIFICATIONS AND SALARIES OF ELEMENTARY SCHOOL TEACHERS.

	<u>GRAND JACKSON CLEAR CREEK</u>		
Total elementary teachers employed	31	14	8
Teachers having degrees	3	1	1
Teachers having life certificate	1	1	0
Teachers having limited state cert.	15	3	3
Teachers with 1st Grade Co. cert.	6	4	1
Teachers having 2nd Grade Co. cert.	7	4	3
Teachers having 3rd Grade Co. cert.	2	2	1
Average number of years experience of elementary teachers	6	7	4
Teachers with one year experience or less	6	2	2
Percent of teachers teaching for first time	19	14	25
Average salaries paid to teachers of one-room schools	\$781.00	\$810.00	\$839.00

The preceding table, which is self-explanatory, does not describe all of the conditions. An investigation which was completed only for Jackson County showed that seven of the fourteen teachers have business or family interests in that county which influenced them to teach for a smaller salary than they would ordinarily command. On the other hand, two instances were noted wherein teachers having satisfactory educational qualifications were dismissed during the school term, because they were morally or temperamentally unqualified for their work. There was a wide variation in the effectiveness of teachers employed, according to the opinion of the county superintendents of these counties.

QUALITY OF INSTRUCTION OFFERED.

The qualifications and experience of teachers as shown in the table on the preceding page are well up to the standards set for rural and village schools of Colorado (1). In spite of the difficulty in securing teachers for rural schools in mountain counties, the proportion of those teaching for the first time as shown by the table is less than the estimated average for all rural teachers. (Cubberley - Rural Life and Education, p. 285.)

The observation of the classroom work of six teachers was made a part of this study, but was an insufficient sampling upon which to base an estimate of the quality of instruction offered in the elementary schools of these counties. Some of what was judged to be poor and some very good teaching technique was observed. All of the class periods of upper elementary grades which were observed were of the old type recitation method. No attempts at individual instruction, such as the Dalton plan or Contract method, were found, nor was any use of achievement tests or standardized subject tests reported by any of the teachers interviewed.

(1) School Laws of the State of Colorado. Articles 39 to 56.

The large number of classes which rural teachers must include in the daily program is shown by the following table. In the totals for each county, village schools employing more than one teacher were not included.

TABLE VI. DISTRIBUTION OF PUPILS AMONG SCHOOL GRADES.

Grand County

<u>Dist. No.</u>	<u>Pupils Enrolled</u>	<u>No. Schools in district</u>	<u>No. Grades Taught</u>	<u>Average No. each grade.</u>
1	33	1	7	4.71
2	87	1	8	10.87
3	11	1	6	1.83
5	65	1	8	8.12
7	13	1	6	2.16
8	11	1	7	1.57
10	9	1	5	1.80
12	7	1	4	1.75
13	7	1	6	1.16
14	41	2	12	3.42
15	11	1	7	1.57
16	64	1	8	8.00
17	21	1	6	3.50
19	20	1	8	2.50
20	21	1	8	2.62
21	7	1	5	1.40
Total in 12 one-room schools	128		68	1.88

TABLE VI. (continued).^{36.}

Jackson County

Dist. No.	Pupils Enrolled	No. Schools in district	No. Grades Taught	Average No. each grade
1	91	2	11	8.25
2	49	2	15	3.26
3	35	5	23	1.52
4	11	1	5	2.20
5	9	1	6	1.50
6	12	1	5	2.40
Total in 10 one-room schools			50	1.66

Clear Creek County

1	17	1	6	2.83
3	47	1	8	5.87
4	9	1	5	1.80
5	(Idaho Springs omitted)			
6	13	1	7	1.86
10	8	1	6	1.25
11	10	1	8	1.20

Total in 5 one-room schools			32	1.78
-----------------------------	--	--	----	------

Grand total in 27 one-room schools studied		268	150	1.79
--	--	-----	-----	------

Average enrollment	10
Average number of grades taught	5.5
Average number in each grade	1.79

SPECIAL INSTRUCTION.

The writer found through personal experience and observation of other teaching in these counties that there was little time left in the daily program for special subjects or special methods of instruction. What was accomplished in art or music seemed to depend upon the personal interest of the teacher. Agriculture, hygiene and physiology were usually taught as facts to be acquired rather than projects in appreciation of nature. Home economics subjects were not attempted in the schools visited.

A general idea of the plant and equipment of one-room rural schools in the counties studied may be gained from the following table which indicates the presence or absence of some desirable and other undesirable features.

TABLE VII. PLANT AND EQUIPMENT OF ONE-ROOM SCHOOLS.

	Counties		
	<u>Grand</u>	<u>Jackson</u>	<u>Clear Creek</u>
Total number of one-room rural school houses	17	12	5
Number built of logs	9	5	0
Number having windows opposite each other	15	12	4
Number using jacketed stoves	4	4	2
Number having unjacketed stoves	13	8	3
Number with sanitary drinking fountains	3	4	2
Number with inside toilets	0	0	0
Number with playground equipment	6	4	3
Number of districts furnishing text books	2	all	0

TABLE VII. (continued)

	Counties		
	<u>Grand</u>	<u>Jackson</u>	<u>Clear Creek</u>
Libraries with less than 50 volumes	5	3	1
Libraries with 50 - 100 volumes	11	7	2
Libraries with more than 100 volumes	1	2	2

Five schools were found to be using the old style double, unadjustable desks. Foot benches of varying heights were noticed in two schools. These gave an adjustment to leg length and also kept the pupils' feet off of cold floors. The use of individual chair desks was noted in two village schools only.

SELECTION OF TEACHING AIDS AND REFERENCE MATERIALS.

A complete survey of teaching equipment could not be made, because only a few of the schools were in session when visited. However, some of the schools were evidently oversupplied, while other schools were undersupplied with teaching equipment. Some of the equipment observed was modern, and much of it was out of date. In three schools there were no wall maps in evidence. Both incomplete and complete sets of wall maps were found in other schools. One school, established for approximately one year, had no teaching equipment whatever, while another rural school displayed three sets of reference books, two sets of reading charts, and other equipment in proportion. A wide variation in the quantity and selection of teaching aids and reference materials existed in all of the counties studied.

NON-UNIFORMITY OF TEXT BOOKS USED.

The table on the preceding page states that all of the districts of Jackson County, two of the districts in Grand County, and none of the districts in Clear Creek County furnished text books to pupils. A survey of the text books used by each district shows a correspondingly wide variation in uniformity among the three counties. Complete uniformity of text books throughout Jackson County was noted, except in the case of reading texts, where Elson readers are evidently standard for that county, but Beacon and Baldwin readers are also used.

TABLE VIII. NON-UNIFORMITY OF TEXT BOOKS.

In Clear Creek County where no districts furnish text books, there were in use in the seven districts:

- 6 different texts in Reading.
- 5 different texts in Arithmetic.
- 7 different texts in Grammar.
- 5 different texts in United States History.
- 3 different texts in Civil Government.
- 2 different texts in Geography.

Including Grand, Jackson, and Clear Creek Counties there were noted:

- 8 different texts in Reading.
- 9 different texts in Arithmetic.
- 8 different texts in Grammars (Pearson and Kirchway series counted as one unit)
- 10 different texts in United States History.
- 6 different texts in Civil Government.
- 5 different texts in Geography.
- 7 different texts in Physiology.

UNEQUAL GRADING OF PUPIL ACHIEVEMENT.

There is sufficient scope in this particular topic to provide research work for an entire thesis. The writer's research was confined to teaching experience in two rural schools in one of the counties studied and to conferences with other teachers and with county superintendents. Intelligence tests were reported in use in the three counties studied, but the purpose for which they were used was not learned. No achievement test scores are on file in county superintendents' offices in Jackson, Grand, or Clear Creek counties. Of five students entering the writer's school-room in Jackson County from other schools, those from the Denver, Fort Collins, and Los Angeles schools were much in advance of the resident pupils in the matter of achievement. One resident pupil promoted to seventh grade was two years retarded in achievement. The wide variation in achievement of pupils in the same grade greatly increased the difficulty of rural teaching. Other teachers, with whom the writer conferred, considered this one of the greatest obstacles to their efficiency in teaching.

This topic also involves improper promotion of pupils. The writer has been asked to receive in his classes pupils whose report cards read, "Promoted through courtesy". When pupils can be benefited by another year of school and ^{and} able and determined to quit school rather than be placed in a lower grade, teachers have permitted them to continue with their class. One teacher admitted that sympathy for the pupil or its parents had influenced her in making promotion at the end of the year.

Improper promotion of pupils in these counties has led to irregular methods of administering final seventh and eighth grade examinations. The questions are regularly prepared under the direction of the State Superintendent of Public Instruction and distributed through the county superintendents to the teachers of rural schools. Frequently the examinations cover subject matter not included by the teacher in the year's work. The opportunity exists for the teacher to take up this subject matter in class a day or two before giving the test, or to explain the test questions in such a way as to suggest answers to them. Personal factors may influence the teacher though she be entirely conscientious in her work. A vital necessity remains for the proper grading according to achievement of the pupils in the schools of these counties.

INTERFERENCE OF PARENTS AND BOARD MEMBERS.

Rural school teachers who board with parents of their pupils, especially when one of these parents is a member of the board of education, sometimes create most unpleasant living conditions by trying to be fair and efficient in the school-room. What seems to be an unusual number of such unpleasant situations seems to take place in mountain districts. For instance, the seventh and eighth grade teacher in Walden graded her pupils according to her judgment of their achievement and is not to return this fall, because the mothers of many of her pupils presented a petition to the school board asking that she not be reelected. A rural teacher in the same county felt constrained to give up her school during the first semester. Unpleasantness had followed her demotion of a child

whose father was secretary of the school board. In the districts studied there was a total of 53 elementary school teachers who were employed by 30 boards of school directors of three members each. This situation, namely, 90 employers for 53 teachers, has provided too many opportunities for interference.

CONSOLIDATION.

Due to the shifting of population some districts in the counties studied have become inactive, and their territory was allocated to adjoining active districts. A minor and temporary coalescing of active districts has occurred in a few instances. In Grand County, district No. 6, having only two pupils, discontinued its school, because these two pupils were able and willing to attend school in another district. Tuition arrangements were made between the two districts. A similar arrangement was made between district No. 21 in Grand County and an adjoining district which was located in Summit County.

In Jackson County the High school in district No. 1 was closed after arrangements for boarding the pupils at Walden had been made. In this case one family was at first unwilling to accept the allowance, and a school had to be maintained for their two children. A year later the mother took her children to Walden, accepted the allowance for board, and reported that she preferred the arrangement.

In the investigation of these counties it was found that no consolidation of active districts has taken place, and that no consolidation of elementary schools which would involve transportation of pupils was being contemplated.

LACK OF ADEQUATE SUPERVISION.

Some of the undesirable school conditions discussed, namely, the quality of special and ordinary instruction offered, the unequal grading of pupil achievement, and the teaching difficulties resulting from the many classes in the daily program, point to a lack of adequate supervision of the teaching done. Aside from the inspectional visits made by the county superintendent, the rural teachers in these counties are without the "training on the job", which the city teacher receives from her supervisor. Even the village teachers lack the assistance of specially trained supervisors which is furnished in large schools.

POORLY ADAPTED COURSES OF STUDY.

The unsatisfactory subject matter in the courses in agriculture, hygiene and physiology was mentioned in connection with the topic of Special Instruction. As was brought out, teachers found little time to enrich the curriculum through special methods or new materials. The opportunity to individualize instruction by means of projects and contract methods was virtually missed in these rural districts. Lack of supervision, especially when the new teacher attempted to adapt the state course of study to her rural school, usually resulted in a non-uniform and poorly adapted curriculum.

SUMMARY OF CONDITIONS FOUND.

Some obstacles in the way of maintaining satisfactory schools were found to be common to all of the counties studied. Chief of these were a sparsely distributed population and a climate which provides long severe winters and difficulties in winter transportation.

Economically, Grand and Jackson counties are prosperous and capable of increasing their expenditures for education. Clear Creek County is losing in wealth and is seeking to reduce school expenditures. All of these counties have a large amount of taxable wealth per pupil, but the expenditures per pupil, particularly in schools having a small enrollment, are also large.

Socially, Clear Creek County, because of its lack of a strictly rural population, offers contacts equal to those of non-mountain counties, while the sparseness of settlement and the difficulties of traveling in Grand and Jackson counties make for a meager social life.

Many undesirable school conditions were found, chief of which are the following:

1. Difficulties of pupils in getting to and from school.
2. Irregular attendance.
3. A lack of broadening social contacts in and out of the school room.
4. Teaching difficulties due to the large number of classes and to the small enrollment in classes.
5. Poorly constructed curriculum.

6. Inadequate supervision.
7. Inadequate special instruction.
8. Inefficient provision of teaching aids and reference material.
9. A large variation in the text books used in Grand and Clear Creek counties.
10. Inadequate plant and equipment of rural schools.
11. Uncertainty in methods for selecting teachers.
12. A low wage scale for rural teachers.
13. Unequal grading of pupil achievement.
14. Much of administration in the hands of local school boards who lack training for the work.
15. Interference of parents and board members in the details of instruction.
16. Unequal distribution of the costs of education.

CHAPTER III.

AN ANALYSIS OF THE EXISTING ELEMENTARY EDUCATIONAL SITUATION
AND SUGGESTIONS FOR IMPROVING ELEMENTARY EDUCATIONAL OPPORTUNITIES.

An examination of the educational situation described in Chapter II suggests that some of the conditions, such as sparseness of population or difficulties of transportation, are not easily modified, while other conditions, such as the relocation of a rural school, may be readily accomplished. This analysis is chiefly concerned with conditions which can be improved.

Most of the undesirable educational conditions listed in the summary of the last chapter are not peculiar to mountain districts, but extend generally to the old type of rural schools. Progress away from these undesirable educational conditions has usually been along the line of some sort of consolidation. The consolidation and departmentalized rural school suggests efficiency in education as a large department store suggests efficiency in merchandizing. In a similar manner, the organization of chains of banks and stores, where individual units cannot be consolidated, suggest that consolidation of administration might improve the efficiency of education in cases where the consolidation of instruction centers does not seem to be feasible. The writer proposes to analyze the elementary educational situation described in Chapter II/ for its adaptibility to:

1. Consolidation of instruction centers.
2. Consolidation of administration without consolidation of instruction centers.

1. CONSOLIDATION OF INSTRUCTION CENTERS.

So much has been said and written of consolidation of schools that only a few of the advantages need be noted here. It is held by Cubberly¹ that consolidation of instruction centers:

1. Arouses community interest in schools.
2. Increases attendance and enrollment especially in the upper grades.
3. Permits the use of fewer teachers, better selected, and better paid.
4. Permits better grading of pupils for instructional purposes. Classes are large enough to stimulate the interest of both pupils and teachers.
5. Offers better opportunities for instruction by special teachers, particularly in Art, Music, and prevocational subjects.
6. Provides better social opportunities for pupils and parents. The pupils learn group playing at school.
7. Makes better supervision of teaching possible.

The most frequent objection to consolidation of schools is the increased cost of the education. When the improvement in educational opportunities is considered, the cost per unit of value returned is actually less under consolidation.²

The sparseness of population in the counties studied suggests consolidation of instruction centers as a possible remedy. There are two methods of accomplishing this, namely: (a) by transportation of pupils, and (b) by boarding of pupils at central points. The

1. & 2. Ellwood P. Cubberly, Rural Life and Education.

aim of the study of this topic is to determine if either method of consolidating instruction centers is feasible in Jackson, Grand, or Clear Creek counties.

(a) Transportation of Pupils.

In Jackson County it has been noted that climatic conditions limit the transportation of pupils in winter to distances of six to eight miles, and that winter conditions normally obtain for approximately five months of the school year. In all of Jackson County there are no two winter schools which are within eight miles of each other. The three summer schools, namely: Haworth, Butler, and Three Mile are located at an average distance of 22 miles from a central meeting point. If this were the entire distance to be traveled by each pupil, consolidation of the three schools would be possible. An intensive survey of Butler school, as typical of the other two, indicates that a bus would have to travel eighteen miles to gather its eleven pupils, but that some of the private roads to these homes are impassable to cars. The average distance to be traveled by each child in reaching Butler school is $2\frac{3}{4}$ miles, and the average time required is approximately 45 minutes. Under such circumstances transportation to a consolidation point would require 45 minutes to the school and an additional 45 minutes to the central point, a total of $1\frac{1}{2}$ hours time morning and evening. This is a prohibitive condition. The railroad cannot be considered as an instrument of transportation/for the reason that business does not justify daily train service.

If the schools in Jackson County were maintained during summer instead of winter time, a consolidation program involving centers at Cowdrey, Walden, and Coalmont would seem to be feasible. However, at present only 28 pupils of the 240 enrolled in this county attend summer school. The sentiment is against summer schools when winter schools are possible. Consequently, consolidation of instruction centers by means of the transporting of pupils in Jackson County does not seem to be feasible.

Clear Creek County presents an entirely different situation in this respect. The population is concentrated in narrow stream valleys, and the centers are connected by state maintained roads which are kept open throughout the winter. Dumont school, five miles west of Idaho Springs, enrolled 9 pupils last year. Lawson and Empire, respectively, 7 and 10 miles west of Idaho Springs on the same highway, enrolled 8 and 17 pupils. Consolidation of these three schools with those of Idaho Springs could be accomplished by a bus route of twenty miles, making one trip per day. Telephone lines and the railroad follow the highway, ^{while} mining properties and a few homes offer shelter, so that it would seem that adequate precautions might be taken against the danger of winter storms.

The Silver Plume school, which is three miles from Georgetown, enrolled 13 pupils, while the elementary school at Georgetown enrolled 50 pupils. Consolidation of these districts is desirable from the standpoint of economy as well as improvement of the instruction offered. District No. 11 in Clear Creek County, because of its isolation on account of distance and inadequate winter

transportation is like those of Jackson County, and does not seem to lend itself to consolidation.

Grand County presents a concentration of population along the line of the Denver and Salt Lake Railway which is similar to that in Clear Creek County, but the distance between communities is greater, and the school enrollment is also much larger. Of 428 elementary school pupils enrolled in Grand County, 332 are enrolled in seven districts whose schools are located on the railway line. The enrollment by school and the distance between centers east from Kremling are shown in the following table.

TABLE IX. DISTANCE BETWEEN VILLAGES IN GRAND COUNTY.

<u>School</u>	<u>Enrollment</u>	<u>Distance from town on west.</u>
Kremling	65	0
Troublesome	19	5
Parshall	22	7
Sulphur Springs	33	6
Granby	41	10
Tabernash	64	10
Fraser	87	4

The remaining ten districts in Grand County enroll 96 elementary school pupils. These schools which seem most in need of consolidation are in the position of those in Jackson County in which consolidation employing transportation of pupils does not seem to be feasible.

No existing method of transportation will permit consolidation of the community schools named in the preceding table. The

highways are closed during a part of each winter, and climatic conditions as described in Chapter II. would make winter travel on this highway dangerous if the distances between community centers were not in themselves prohibitive. It is possible that when the Denver and Salt Lake Railway becomes a transcontinental line, service may improve to such an extent that some consolidation of instruction centers in Grand County may become feasible by rail transportation.

While at the present time no consolidation of elementary schools, except of inactive districts, has taken place in any of the three counties studied, Clear Creek County offers two opportunities for consolidation of instruction centers which seem not only feasible, but desirable. In Jackson County no consolidation of instruction centers involving transportation of pupils seems feasible, while in Grand County this consolidation seems to depend upon the possible future development of rail transportation.

(b) Boarding of pupils at central points.

Consolidation of elementary schools by the boarding of pupils is a problem individual not only with the county, but with each district and family within the district. Colorado state legislation enacted in 1929¹ permits boards of directors of third class districts when authorized by a majority vote of the qualified electors voting at a general or special election to transport

1. School Laws Enacted by Legislature 1929, p. 20, Article 2,

Katherine L. Craig, State Superintendent of Public Instruction,
Bradford Robinson Printing Company.

pupils to and from school or to equitably apply the money which would be used in paying for their transportation to the payment of the board of such pupils at a point near the school. The probable intent of this act is to enable school boards in rural districts to adjust educational opportunities to a few pupils who cannot economically be brought to the schools which are now provided.

Provision is also made¹ whereby tuition may be paid by the district of a pupil's residence to the district in which he wishes to attend school, provided the reason for such desire to attend school in another district seems sufficient to the boards of education of the districts involved, and provided that an agreement between these boards of education can be reached regarding such attendance. School districts which educate all of their children in another district in this manner do not lose their legal right to exist as a separate district.² Under these legal provisions it is possible for schools in rural districts to be abandoned in favor of more efficient schools, favorably located within or out of the county in which the pupils of the district reside. The operation of this plan differs from some previously advocated plans of consolidation in that more consideration is given pupils and guardians of pupils who reside in rural districts. The problem of dividing a family that the children may be better educated is a serious one

1. School Laws of the State of Colorado, p 83, Article 139, Katherine L. Craig, State Superintendent of Public Instruction, Bradford Robinson Printing Company.

2. Ibid, p 93, Article 157.

and it is reasonable to doubt if a majority vote of the electors of a school district should legally obligate all of the guardians of children/^{who}reside in that district. However, the method here suggested of adjusting each case by a triangular agreement between the pupil or his guardian and the two districts involved would seem to work a minimum of hardship either upon the tax payers or upon the pupils and families involved. County Superintendent Riddle of Jackson County reports an instance in that county wherein one family now furnishes all the enrollment of the school in that district. She further stated that not only would this mother be glad to move to Walden for the school year, but that the school district could save money by following this plan. The fact that boards of school directors may assist in the maintainance of pupils in schools outside of their district or county is not well enough known. Further many school boards are reluctant to give up their opportunity to manage a school, however small or inefficient. The writer suggests that a correct interpretation of the legal provisions described in this chapter be placed before the electors in sparsely settled mountain districts so that they may better understand the possibilities and advantages of this type of consolidation for increasing the educational opportunities of mountain counties.

Consolidation of elementary schools by the boarding of pupils, then, should not be forced upon the parents of a district by a majority vote of the electors. A better understanding of the privileges and advantages, at present legally provided, should lead

to the closing of many small rural schools in favor of more efficient village schools.

2. CONSOLIDATION OF ADMINISTRATION.

Responsibility for the administration of rural schools in Colorado rests unequally upon the county superintendent of schools and each local board of school directors. The duties of each have been briefly outlined in Chapter II. Since the office of the county superintendent of schools is elective, and her duties chiefly co-operative and supervisory, the ability to contribute to the removal of undesirable educational conditions depends largely upon her personality. In the counties studied an average number of 30 school directors attend to the details of administration. Each board of school directors has one or more proving grounds (rural schools) on which to try out their ideas of educational efficiency. The lack of uniformity in desirable results found in the counties studied is what should be expected.

Many school systems involving consolidated administration are now successfully operating in other states. States which have led in consolidation are Illinois, Iowa, New York, Pennsylvania and Ohio. The fact that railroads and banks which cannot consolidate their places of business are finding it so advantageous to consolidate for administrative purposes is further evidence of the soundness of this method as applied to the business of improving educational opportunities.

Consolidation of the administration of rural schools is a

system similar to that of city schools in which one board of education manages all of the schools of the city. Responsibility for the administration of rural schools is delegated to a superintendent, who is selected by the board of education to advise with them and act for them in the administration of these schools. If in the counties studied the county superintendent of schools were empowered as a city superintendent, she might administer the rural schools of her county so as to:

1. Reduce the difficulty of getting pupils to and from school by relocating schools and by intelligently promoting the boarding of pupils at central points.
2. Broaden social contacts and at the same time increase attendance by promoting extra-curricular activities and by uniting all of the schools of the county in musical, athletic and literary contests.
3. Revise the curriculum to meet the needs of the community and through supervision to adapt the instruction to these needs.
4. Prescribe certain combination and alternation of classes which would reduce the number of classes to be taught.
5. Provide for special instruction by special teachers.
6. Grade pupil achievement equally, both for instructional purposes and for promotion.
7. Prevent interference of parents and local board members in the details of instruction.

8. Provide better selection and save money by purchasing centrally all teaching aids, supplies and equipment for each county.
9. Require the use of uniform text books throughout the county.
10. Improve the selection of teachers by paying more than the low salaries offered by some districts in these counties.
11. Improve in the matter of repairs and alterations the buildings and equipment of the rural schools.
12. Substitute an executive trained in the administration of schools for the local district boards who are not trained for this work.

Pupils attending some consolidated rural schools receive nearly all of the advantages obtained by pupils of city schools and some advantages not to be obtained in city schools. It cannot be expected that consolidating the administration of unconsolidated rural schools will obtain for their pupils all of these advantages. However, this study of individual educational conditions found in Jackson, Grand and Clear Creek counties does indicate that, with the exception of the problem of equalizing the cost of education, rural conditions in these counties would be improved by consolidation of rural school administration. The scope of this thesis is too broad to permit an extensive description of all methods of consolidation which might successfully apply to these counties. The County Unit System is most widely known and is particularly adapted to western states which are already familiar with the county as the unit of local government.

COUNTY UNIT PLAN.

The County Unit Plan will be found modified to meet different needs in/ different states/. Essentially the plan provides for combining into one district all school districts in the county, except those approximately equivalent to Colorado first and second class districts. For purposes of representation this county district is then divided as counties in Colorado are subdivided into commissioner districts. From three to six directors are elected or appointed, one for each district of rural schools, for terms from three to six years in length. These county boards of education or school commissioners are entrusted with the administration of rural schools much as a city board of education administers the schools of that city. County boards of education usually select a superintendent who acts for them as a city superintendent acts for the city board of education. Though the member of a county board of school commissioners may be elected to represent a particular district, he, like the county commissioner, has no individual authority over the affairs of his district. Authority is vested in the board of commissioners as a whole. The local school is usually allowed a voice in the selection of their principal, but employment or discharge of teachers rests with the county board of education. The activities of such a board of county school commissioners/ are described by Cubberly¹. Village schools are here included in the

1. Ellwood P. Cubberly, Rural Life and Education, p. 339 - 347.

system. Six members constitute the board of county school commissioners. Local districts and local boards of school trustees still exist. These local boards of trustees are appointed by the county board and under their authority care for and repair the school house, vote special levies for special school facilities, admit, suspend or expel pupils, and, in general, exercise a limited supervision over the schools. They have nothing to do with the course of study, the selection of text books, supervision of teachers, or other details of instruction. The local trustees may nominate to the county board a principal who in turn may select other teachers, but actual employment is by the county board. The expenditure of school funds is in the hands of the county board of school commissioners and is apportioned among the different schools according to their needs and without regard to the taxable wealth of the different local districts.

Under this system schools were consolidated, and special instruction, such as manual training and domestic science, was furnished in rural one-room schools. Local teachers' meetings were organized under leadership of the principals of the larger schools, a course of study, especially adapted to the county, was set up and maintained through an excellent program of supervision. All-day meetings of all of the teachers in the system were held five times each year. Specially trained visiting teachers were employed to assist the regular teachers and to substitute for them so that they might visit other schools. During this time school patrons, through parent teachers' associations and club work, were

59.
educated so that not only the schools, but the social and economic life of the community, benefitted by the centralized system of school administration.

EXPECTED RESULTS OF CONSOLIDATED ADMINISTRATION.

In view of the success which has so generally followed the (reference is made to the bibliography following Chapter V.) centralization of the administration of rural schools, it should not be necessary to show how this consolidation would affect each of the undesirable school conditions found in the counties studied. Most notable among the improved conditions would be:

1. Desirable consolidation of schools.

Conditions in Jackson and Grand counties, as well as the situations in Clear Creek County in which some consolidation seems desirable, would be more carefully studied, and such consolidation as was really desirable would be effected. Conditions influencing the boarding of pupils would be improved so that the abandonment of inefficient rural schools could proceed more rapidly.

2. More uniform text books and adequate school equipment.

As was described in Chapter II. non-uniformity of text books is a severe handicap upon children whose parents must move from one community to another. A centralized board of directors would remedy this condition with little additional cost either to parents or tax payers of the district. Inadequately equipped schools would be supplied with equipment purchased from funds of the entire district. Additional special facilities might be provided by any

60.

districts which cared to vote special additional levies for such facilities.

3. Reclassification of pupils.

In the writer's experience as a teacher in Jackson County and according to opinions expressed by other teachers interviewed, the lack of classification of pupils according to achievement is one of the most discouraging situations which confronts the teacher undertaking to teach a rural school in at least two of the counties studied. Educational efficiency and ease of teaching depends upon a reclassification which is most difficult for the teacher to accomplish individually. Further the average rural teacher is not sufficiently skilled in the use of tests and measurements to make such a reclassification correctly.

The larger county school organization could immediately undertake a proper classification under an administrator skilled in the use of educational tests, and it is expected that patrons, made conscious of improving school conditions, would approve the better classification.

4. An improved course of study.

The desirability of adjusting the curriculum to the needs of the community served has been emphasized by the Smith-Rughes vocational training in secondary schools. In the teaching of Agriculture a definite plan is pre-

scribed for adapting the subject matter to the interests of the community. Successful representative farmers are asked to list the problems which they encounter in their occupation as farmers. The most frequently encountered problems become the course of study in agriculture. Rural and village communities are in need of such adaptation of the elementary school curriculum. Geography, history, civics, hygiene, arithmetic and agriculture especially need to be grounded in the environment of the pupils. The individual teacher cannot undertake such a revision, and the local district could not afford to pay for the research work necessary. Since the county is the local unit of state government among the western states, the county board of school commissioners is the logical organization to undertake the adaptation of the curriculum to the needs of each community in that county.

5. Better selection of teachers.

It has been found that there is little ground for objection to the selection of teachers in the counties studied. Some teachers who were unqualified for the positions have been selected, however, and it is probable that a superintendent who must approve the selection of all of the village and rural schools of a county would be better able to select good teachers than boards of three inexperienced men who make only an occasional selection.

6. Better supervision.

Centralization of administration should make the greatest improvement in the field of supervision. At present the effect of the annual or semi-annual inspectional visits of the county superintendent is practically negligible from the standpoint of supervision. When each rural teacher is left to her own devices without new inspiration from one year to the next and without a check on the results she is obtaining, no definite efficient school program can be expected.

Under the County Unit method rural supervision would be provided as it is now provided in cities. One visiting and supervising teacher would spend one day per month in each school in Grand County, or two days per month with each school in either of the other two counties. A more desirable distribution of time undoubtedly would be evolved, but there should result an increased interest and enthusiasm of both teachers and pupils, improved teaching methods, more initiative and better methods of study on the part of the pupils, more special instruction in music, art, and vocational subjects, useful extra curriculum activities and an improved morale and consciousness of education on the part of the community.

UNFAVORABLE CHARACTERISTICS OF THE COUNTY UNIT SYSTEM.

The unfavorable side of the County Unit system must be presented. A superintendent of rural schools capable of bringing about many desirable improvements in school conditions would demand a much higher salary than the \$1,100 now paid county superintendents of schools in these counties.

The cost of visiting teachers, supervisors and special instructors would add a prohibitive expense in counties of this size. Even if the electors became educated to the increased expense, climate and the sparseness of population would still interfere with the efficiency of education. In the case of Clear Creek County the stability of the present population is not assured. It would seem that for mountain districts a larger area for administration of public schools, than the County Unit proposed, would be desirable.

3. THE TAX SITUATION.

A NEW EQUITABLE DISTRIBUTION OF THE TAX BURDEN IS NEEDED.

The inequality of the tax burden is undoubtedly the greatest obstacle to centralization of school administration. An examination of Table III on page 30 shows that while the cost of education per pupil in the different districts does not vary in a greater ratio than 3 to 1, yet the cost of education as levied upon tax payers is twenty times as great in some districts as in others. If a man on one side of the street were charged \$20.00 for groceries which his neighbor across the street could purchase for \$1.00, there would be a heated protest and an immediate adjustment. If, however, education which can be purchased for one-half mill in one district costs twenty times as much or ten mills in another district, the electors in the low cost district protest against any consolidation which would adjust the costs between the two districts.

Aside from the state general school fund, which yields approximately \$2.00 per pupil per year, the elementary schools of Colorado are supported by direct property taxes, ^{with} school taxes amounting to approximately half of the taxes collected. However, many wealthy men virtually escape paying property taxes.

Mr. G. S. Klemmedson, Taxation Economist for the Colorado Agricultural College, in unpublished data states that, "Two persons in Colorado, with a combined net income of \$713,890, for that year paid only \$155.00 in local and state taxes, although they contributed \$36,263 to the federal government in income taxes.

Since these persons owned no real estate or personal property,

except possibly an automobile apiece, they practically escaped taxation in Colorado under our present tax system". The average Colorado farm in 1925 paid a general property tax of \$264.00 which was 33 percent of its net income for that year, while the average individual of the state paid 2.64 percent of his net income in general property taxes for the same year.¹ "Individuals in Colorado paid a smaller proportion of their net income for state and local taxes than did individuals in any other state".² Because so much wealth in Colorado escapes taxation, the property taxes for the support of schools are almost unbearably high.

Since the state has been unsuccessful in taxing these millions of dollars worth of intangible personal property, it seems reasonable to abandon the idea of taxing that type of property and to tax instead the income which is derived from it. Such a method will require a complete revision of the tax system and necessitate changes in the constitution, but it will open the way to a fair distribution of the tax burden. Chief among the special taxes proposed are a personal state income tax, a severance tax or tax upon natural resources, a tobacco tax, an inheritance tax, and certain taxes on business, such as the annual franchise tax, the tax on insurance business, and the business license taxes. Of these the inheritance tax, the annual franchise tax, and the tax on insurance premiums are already levied by the State of Colorado.

1. Don C. Sowers, *The Tax Problem in Colorado*, p 33 and p 40.

University of Colorado bulletin No. 261, Boulder, Colorado.

2. *Ibid.*, p 40.

It is not within the scope of this thesis to go deeply into the tax problem of Colorado, but certainly it is the duty of this state, having undertaken the administration of the public school system, to distribute the cost more equally among its citizens.

THE REMEDY PROPOSED.

Several studies of the educational problems and of tax problems relating to education in the State of Colorado have been made by the Colorado state schools. The published results of some of these studies are included in the bibliography following Chapter V.

The finance committee of the Colorado Educational Association has undertaken to prepare a plan for "Reconstruction of the system of financing public schools in the State of Colorado". This committee, which was well financed, first made use of the publications relating to taxation and education in Colorado^{and}/then employed Dr. Paul Mort, a nationally known expert in school finance, to work with them. A preliminary report was made by this committee to the delegate assembly of the association in December 1929, and its main provisions were published in the Colorado School Journal for January 1930. The writer has studied the complete report and believes that the plan proposed would not only reduce the inequality of the tax burden to a minimum, but would greatly facilitate the improvement of the educational situation throughout the state.

The basis of the report was an investigation of the tax and educational situation of Colorado including not only the cost of the elementary and secondary education now provided, but also the cost of a system for elementary and secondary education which

districts neither handicapped nor favored by the present system of taxation have chosen to adopt. In the report of the committee the term "teaching unit" is used as an index to the cost of education and is defined as the salary and current expenses which group about the school room of one teacher for one year's work. The investigation brought out that the present annual cost of education throughout the state is approximately \$1,000.00 per elementary teaching unit and approximately one-third more or \$1,333.00 per high school teaching unit. The amount expended by districts which are neither handicapped nor especially favored financially is approximately \$1,600.00 annually per elementary teaching unit and one-third more or \$2,133.00 per high school teaching unit.

The committee also investigated the tax situation and found that special taxes now in use or which might be used by the State of Colorado would be sufficient to finance the educational program which they proposed to reconstruct.

Basing their recommendation upon the findings of these investigations, the committee proposed that the state develop the income tax and others of the special taxes mentioned, and appropriate money derived from these new sources of taxation as additional general school fund in sufficient amount to reimburse each local district for current school expenditures up to \$1,000.00 per elementary teaching unit and \$1,333.00 per high school teaching unit maintained in the district. The amount of reimbursement per teaching unit was to be increased by \$200.00 every two years until the elementary teaching unit would be reimbursed up to \$1,600.00 and

the high school unit up to \$2,133.00. The local districts were not to be discouraged from levying local taxes to furnish education even beyond the increased standard set by the state, but it was expected that local taxes for school purposes would be practically unnecessary, and thus the burdensome property tax would be reduced by nearly 50 percent.

Under the proposed system the state would lead as well as finance the elementary and secondary school program. Such standards as improved teacher training, adequate supervision and special instruction should be worked out to better advantage/^{even} than under county centralization. Compared with county administration of rural and village elementary schools, which was recommended for the counties studied, this state system would add state leadership to the county organization, if such were in existence, but the local district would still exist for the provision of local tax sources and for the exercise of local power. Further details of the proposed plan for financing the public schools of the state need not be introduced here. Many of the provisions/^{in the light of further knowledge} will undoubtedly be revised, but the plan vitally concerns the taxpayers of the state. It is worth their careful study to the end that the plan may reach the stage of enacted law without losing its good features.

CHAPTER IV.

A STUDY OF THE EXISTING SECONDARY EDUCATIONAL SITUATION.

1. GEOGRAPHIC FACTORS.

The maps which have been included with the investigation of elementary school conditions described in Chapter II apply to the investigation described in this chapter. The study of physical features, natural resources, climate, transportation and distribution of population as described in Chapter II also apply to the investigation of secondary school opportunities.

The effect of climate and difficulty of transportation upon feasible consolidation was not so limiting when secondary school pupils were considered. For instance, the secretary of the school board at Georgetown stated that in his opinion transportation of high school pupils from Georgetown to Idaho Springs was feasible, but that transportation of younger pupils over the same route would be highly dangerous in winter time.

The influence of the distribution of population was increased in the case of secondary pupils. The records of secondary school population by districts were not complete even in the office of the State Superintendent of Public Instruction, but the enrollment of only 33 high school pupils in all of Jackson County, which has an area of 1,522 square miles, indicates the sparseness of secondary school population. No ability to withstand more cold or a longer transportation route will overcome such a difference in population per unit of area. Graduates of the one-room schools face the

necessity of living away from home in order to attend high school.

2. ECONOMIC AND SOCIAL CONDITIONS.

The increased cost of secondary education, when the pupil must be boarded away from home, has become an economic problem in the counties studied. To the writer's knowledge several graduates of the eighth grade in Jackson County were prevented from attending high school, because of the expense of boarding away from home. Some residents have tried to solve this problem by dividing the family for the school year, wife and children moving to town while the husband remained on the ranch. This situation has had an unsatisfactory social aspect whether the mother has accompanied the children to town or sent them to town alone to board. When the mother has accompanied the children, she has had the entire responsibility for their care and development, while the father has had an additional economic burden. When the children were sent alone, their parents were confronted with the problem of finding townfolk who would not only board the children but ^{also} supervise their activities. Serious consequences attend the failure to meet this problem satisfactorily.

3. SECONDARY SCHOOL CONDITIONS.

EXTENT.

In the three counties studied there are but five districts which offer secondary education. Among these, the junior and senior high schools of Idaho Springs in Clear Creek County are large enough to offer specialized instruction in music, art, manual training,

domestic science and commercial courses. Since these schools are not comparable with the other high schools in the counties studied, their investigation has been omitted from the study, because it would have little value in suggesting improvement in the secondary educational opportunities offered by Jackson, Grand, or Clear Creek counties.

There remain four high schools, each offering a four-year course. The Sulphur Springs High School in Grand County enrolled 17 pupils last year and employed one teacher. Walden High School in Jackson County enrolled 33 pupils and employed two teachers. Kremling Union High School in Grand County and the Georgetown High School in Clear Creek each employed three teachers, the Kremling High School enrolling 24 pupils, and the Georgetown High School 29 pupils. The situation surrounding these four schools are somewhat similar so that a comparative study of the four high schools should prove worth while.

ORGANIZATION.

Three types of organization are represented by the four secondary schools studied, namely, county high school district, union high school district, and the usual third class school district.

Jackson County high school district was formed in 1914 when a majority of the electors voting at a special school election voted to organize the district, and to authorize a levy upon all of the school districts of Jackson County for the maintenance of a county high school.

In 1910 certain districts in Grand County voted to form a union district for the maintenance of a high school. Later other districts were admitted to the union, so that at present districts 5, 6, 8, 10, 12, 19, and 20 containing nearly half of the taxable wealth of Grand County comprise the Kremling Union High School district.

ADMINISTRATION.

The four high schools studied are each housed with the elementary school of that district, and in each case the high school superintendent also acts as superintendent of the elementary school. The housing of high school and elementary school in the same building was approved by the one school superintendent, and the three county superintendents interviewed as not only saving in expense, but as having social value in helping to maintain a school atmosphere or morale. Where both high school and elementary school are operated by the same district as at Georgetown and Sulphur Springs, there is no separation of the tax levy for elementary and secondary school purposes.

The North Central Association of Colleges and Secondary Schools requires the employment of three teachers in high schools which are accredited. The high schools at Kremling and Georgetown are striving to maintain this standing, while the Jackson County High School is hoping to employ another teacher and to meet the other conditions necessary to accredited standing. This school is having difficulty in working out an alternation of subjects and a combination of classes which will enable the two teachers to

offer the required courses and additional elective courses desired and sole teacher by the community. An interview with the principal/of the Sulphur Springs high school, unfortunately, could not be obtained. Grant-
it
ing a complete alternation of subjects/is not clear how that teacher can offer a four-year high school course to 17/^{who are} pupils rather evenly distributed throughout the four grades.

The following table shows the enrollment of high school pupils by grades and schools and the average number per grade.

TABLE X. ENROLLMENT OF HIGH SCHOOL PUPILS.

	<u>Georgetown</u>	<u>Sulphur</u>	<u>Spring</u>	<u>Kremling</u>	<u>Walden</u>
Ninth Grade	12	8	9	16	
Tenth Grade	6	4	7	14	
Eleventh Grade	6	2	6	1	
Twelfth Grade	<u>5</u>	<u>3</u>	<u>2</u>	<u>2</u>	
Total Enrollment	29	17	24	33	
Average number per grade	7.25	4.25	6.00	8.25	

TABLE XI. QUALIFICATIONS AND SALARIES OF SECONDARY SCHOOL TEACHERS.

Average salary paid superintendents/ ⁱⁿ four schools	\$2,200.00
Average salary paid secondary teachers same counties	1,423.00
Average No. years teaching experience of nine teachers	9.8

The superintendent at Georgetown held a Colorado Life Certificate. All of the other superintendents and secondary school teachers held five-year state certificates.

An accurate study could not be made of the quality of secondary instruction, of extra curriculum activities or of the use of

the school building for community purposes, because only one of the high schools was in session when visited. With the exception of Georgetown, all of the high school buildings were reported as being used for community gatherings other than dances. The high school communities manifested commendable pride in their schools and seem to have supported extra curriculum activities enthusiastically.

The matter of quality of instruction offered is not easy to determine since an insufficient amount of classroom work was observed. Some graduates who tried to enter eastern colleges from these schools have sent back damaging reports. Whether the fault in the lack of intelligence on the part of the pupil, was/in the quality of high school instruction or of elementary school training; whether it was due to poorly qualified teachers, or to lack of supervision, it is safe to conclude that the quality of instruction can be improved.

The following table is a comparison of the costs of administration in the four districts. Attention is called to a salary of \$3,000.00 paid the superintendent of the Jackson County high school and elementary school at Walden. This is \$800.00 higher than the average salary of superintendents in the four schools studied, and for an unaccredited two-teacher high school, the salary seems excessive.

Attention is also called to the amount of work assigned to teachers as an influence upon the quality of instruction offered. In the case of Walden or Kremling high schools it would seem impossible for the teachers to make thorough preparation for all the classes which they must teach.

TABLE XII. COST OF SECONDARY EDUCATION.

	<u>Georgetown</u>	<u>Sulphur Springs</u>	<u>Kremling</u>	<u>Walden</u>
Valuation of district	\$894,565	\$515,280	\$2,497,805	\$3,892,350
Property value per pupil	30,847	30,311	104,075	117,920
Special Mill levy	*	*	1.6	1.3
Salary paid				
Superintendent #	2,000	1,700	2,100	3,000
Janitor	400	108	225	600
Other teachers (2)	2,750	none	(2) 2,770	(1) 1,596
Fuel, rent and current expenses	582	632	1,033	1,540
Total annual expense	5,753	2,440	6,183	6,736
Expenditure per pupil per month.	\$21.96	\$15.95	\$25.76	\$22.68

* Elementary and high school tax levy not divided.

Salary paid for superintendency of both elementary school and high school.

PLANT AND EQUIPMENT.

The Kremling Union high school occupies with the Kremling elementary school an excellent one-story brick building which was erected in 1918 at a cost of \$14,000. This building is furnished rent free by District No. 14 (Kremling). The union high school district, however, shares in janitor, salary, and fuel and incidental expenses.

The basement contains, in addition to furnace, coal storage and

toilets, two play rooms which are much in use in winter. The larger of these two rooms is used for basketball. An interesting mechanical devise, an Iron Fireman, automatically stokes the furnace with slack coal. With this a more even temperature is maintained and a considerable saving in fuel cost is effected. The main floor of the Kremling School includes one small and four large classrooms in addition to the school office which also serves as a classroom.

The high school at Sulphur Springs is housed with the grades in an attractive new brick building. A small auditorium with a well planned stage serves an assembly room, gymnasium and community center.

The school building at Georgetown has been in use for more than forty years. However, it seems to accomodate the high school satisfactorily. Because of the height - two stories - and the condition of the brick walls, the Georgetown school building is not used for community gatherings. No indoor play rooms or gymnasium is provided.

The most favorable statement that can be made for the Jackson County High School is that bonds to the extent of \$20,000 have been voted for a new building. Since the organization of the district in 1914, this high school has been housed with the grades in a frame structure which was built of native lumber twenty-five years ago. The space is only adequate for the elementary grades. Principal's office and library have become classrooms and laboratory, while the library, office and another class occupied hall space.

The high school assembly room is also the classroom of the seventh and eighth grades. The school is much in need of a gymnasium or indoor play rooms. Improperly ventilated toilets on the first floor create a sanitation problem. Fortunately, a large steam heating plant has been provided, for the building is hard to heat and extra fuel is needed. Only window ventilation is provided. Within a year the Jackson County High School hopes to be housed in its new building, and these handicaps will undoubtedly be removed. The district owns an excellent library of more than 1,000 volumes, furnishes text books to the pupils, and has been generous with athletic and play ground equipment.

SUMMARY OF CONDITIONS FOUND.

Undesirable secondary school conditions are few compared to the unfavorable conditions influencing elementary schools in the counties studied. Climate and difficulty of transportation have less effect upon high school students, most of whom live in the school community.

The writer believes that the ^{small}/size of classes in high school was not a handicap, as it was in the case of rural schools. Other school conditions being approximately the same, the high school student may progress as rapidly or more rapidly in a class of six or eight than in a much larger class. Both qualifications and salaries of teachers were fully in line with those of better populated counties. It seemed that the high schools studied were in closer cooperation with their communities than are the high schools in many larger communities. The buildings and equipment provided for secondary schools seemed to be modern as compared to

^{the}
out of date rural schools. 78.

Among the undesirable conditions indicated by the study of the four secondary schools were:

1. The lack of restraint, home discipline or supervision of many of those who were being boarded away from home.
2. The taxing of an entire county or enlarged district for secondary education which is not available to all pupils, because of the necessity and expense of their being boarded away from home.
3. Need for a better quality of instruction.
4. Need for better supervision.
5. A large variation in the costs of administering secondary education including salaries, current expenses, ^{to a lesser extent} and the final cost per pupil per month.

AN ANALYSIS OF THE SECONDARY EDUCATIONAL SITUATION AND
SUGGESTIONS FOR IMPROVING SECONDARY EDUCATIONAL OPPORTUNITIES.

ADVISIBILITY OF MAINTAINING THESE HIGH SCHOOLS.

The advisability of maintaining high schools under the handicaps which exist in these districts is questioned by many residents of these counties, and the question seems to deserve consideration here. The objections which are commonly made to the existence of these high schools are that they offer in each county an unequal distribution of less valuable educational opportunities at a higher cost.

It is true that the per pupil cost of education in these smaller high schools is greater than in large high schools. It is also true that the distribution of opportunity is unequal. The inability of several pupils in Jackson County to attend the county high school, because it involved their boarding away from home, was mentioned in the last chapter. It is, however, hard to see how discontinuing the local high schools would remedy this situation. The funds now used to maintain these high schools amount to an average of \$21.59 per pupil per month, according to the table on page 75 . This is approximately half of the cost of tuition and board in another community. The number of pupils who could afford to pay half of their tuition and board in order to attend school away from home would assuredly be less than the number of pupils now attending these schools. A method of equal-

ization which seems more feasible would be the granting of a transportation allowance which might be applied to the boarding of pupils who are unable to travel to and from high school daily.

The statement that the educational opportunities of larger high schools are more valuable than those of small schools is to be questioned. Where the pupil is seeking preparation for life in his own community, the local high school should be better able to guide his preparation. When his career leads him away from the home community, the larger school away from his community may serve him better. Statistics as to college attendance were not available for the counties studied, but it was estimated that considerably less than one-fourth of the pupils attending the high schools in these communities will go on to college. The occupations and social conditions of these counties seem to have a special appeal to the young men, and a larger proportion remain in the community. Since the greatest use of secondary education in these counties is preparation for life in the community, and since most of these pupils remain in the community, the high schools of these communities may be better able to provide this preparation than the larger school in some other community.

On the other hand, the smaller schools/^{when not too small} possess certain advantages over the large schools. Closer supervision of pupils is possible. The influence of the teacher through personal contacts is greater. Proportionately more opportunities to develop initiative, leadership, and responsibility are offered to the pupils.

The individual instruction sought for in large schools is the type normally offered in the small school.

Finally the local high school enriches community life. Extra curricular activities, such as plays, literary, musical and athletic contests and programs, furnish the community much of its social life and recreation. The school teachers are looked to for leadership in community affairs and oftentimes assist in the religious and ethical education of the community.

The presence of the high school young people in town lends enthusiasm to other community activities and frequently inspires the town folk to greater responsibilities and respect for laws and the rights of others. Certainly the local high school can be an economic, social and moral asset in each community.

CONSOLIDATION OF SECONDARY SCHOOLS.

Only two possibilities for consolidation of high schools are presented by the counties studied. District No. 1, Sulphur Springs in Grand County, presents a remote possibility in that it might join the Kremling Union high school district, provided railroad transportation becomes sufficiently improved and economically feasible. It would seem that the Kremling Union High School, now employing three teachers for 24 pupils, might include the 17 pupils of the Sulphur Springs High School without further teacher expense. Transportation for the 18-mile distance between Kremling and Sulphur Springs should cost approximately 20 cents per mile, or \$148.00 per month, which is approximately half of what is now being spent upon maintenance of the high school at Sulphur Springs. Since

winter/ transportation is at present entirely unfeasible, the possibility of future consolidation must await better railroad service and will depend upon the relative size of the schools at that future time, and in addition willingness to consolidate which is not at present evident. Consolidation of these schools should greatly improve the instruction now offered at Sulphur Springs, though the school would still lack the enrollment necessary to obtain the chief advantages of consolidation.

A really solvable problem of consolidation of high schools exists in Clear Creek County. The Georgetown district, which has approximately one-third of the taxable wealth of Jackson County or of the Kremling Union high school district, is having difficulty in maintaining the high school. This difficulty is further increased by a decrease in enrollment which may deprive the district of \$75.00 per month from county general funds which have been applied on the superintendent's salary. A reduction in the number of teachers will mean the loss of standing as an accredited school. In the opinion of the secretary of the Georgetown school board, the parents and pupils would prefer consolidation with the Idaho Springs district to the maintenance of an unaccredited high school. The distance between Georgetown and Idaho Springs is twelve miles over a state-maintained, graveled highway, which is kept open for winter travel, so that transportation of pupils is feasible. The Idaho Springs district would welcome union with any or all of the other districts for the purpose of maintaining a union high school. With the consolidation of elementary schools suggested in Chapter III

one school bus making a round trip of 28 miles daily could gather and deliver both high school and elementary school pupils to and from school.

The loss of the high school to Georgetown would not be like the loss of a high school to Walden where the pupils would remove from the county for the school year. The Georgetown pupils would have the advantage of the specialized instruction provided at Idaho Springs and still live in their own homes.

LARGER UNIT FOR SECONDARY SCHOOL ADMINISTRATION IS DESIRABLE.

In the administration of the details of education in the high schools studied the principals are left to their own resources in the same manner that teachers of one-room rural schools must manage the details of elementary education in these counties. In contrast to this condition is the system of county high school administration in Washington County, Colorado. Here a trained and experienced executive is superintendent of all of the high schools in second and third class districts in the county. He advises and assists each principal about such details as the alternation of subjects taught, new teaching methods, or the adjustment of the curriculum to the needs of the community. All of the high schools of this county are accredited, and the work is so coordinated that many elective courses of a vocational nature are offered in addition to those meeting college entrance requirements.¹

The secondary school educational conditions in the counties

1. This information was gained from conversations with Mr. Stewart, Superintendent of the Washington County High School system, and with Mr. Dunlop, a principal who worked under Mr. Stewart.

studied do not reach this stage of efficiency. The writer suggests that these conditions could be improved by some similar consolidation of administration and supervision of high schools in second and third class districts in mountain counties. In sparsely populated districts this would mean the union of several counties for the administration and supervision of secondary schools. Progress toward such a consolidation could be rapid if the state were allowed to assume leadership such as is proposed in the plan described in Chapter III for refinancing public instruction in Colorado.

CONCLUSIONS.

The findings of this investigation have been diverse as are the conditions in Jackson, Grand and Clear Creek counties. Consolidation of schools in Clear Creek^{County} is feasible, while the findings in Grand County are indefinite, and in Jackson County they are negative.

Consolidation of elementary school administration is desirable in all of the counties whether the County Unit System or a system of state leadership be the method by which it is accomplished. Consolidation of the administration of secondary schools is equally desirable and for these mountain counties will require some system larger than the County Unit.

BIBLIOGRAPHY

- Rapeer, Louis W.
1920 The Consolidated Rural School.
Chapters V, XIII and XXI.
- Cubberly, Ellwood P.
1914 Rural Life and Education.
Chapters XI and XIII.
- Colorado State Board of Immigration.
1929 Colorado Year Book.
- Sowers, Don C.
1928 The Tax Problem in Colorado.
Univ. of Colo. Bul. G. S. 261, 33-66.
- State of Colorado.
1927 School Laws of the State of Colorado.
1929 School Laws enacted in 1929.
- Coombs, Whitney, Moorhouse L. A. and Seeley, Burton D.
1928 Some Colorado Tax Problems. Bul. 346
Exp. Sta. Colo. Agri. College.
- Sargent, C. G.
1925 Better Country Schools in Colorado.
Colorado Educational Association.
- Mort, Paul
1930 Preliminary Report of Reconstruction of the
System of Financing Public Schools in the
State of Colorado. Colo. Sch. Jour. Ja. 1930.
- Gass, H. A.
1910 The Necessary One Room School.
N. E. A. Proc. Vol. 60, 275-276.
- Therman, L. M.
1928 The Ultimate Influence of Standard Tests.
Editorial Jour. Ed. Rch. Ja. 1928. 57-58.
- Oertel, E. E.
1929 Creative Supervision vs. Inspection.
Am. Sch. Bd. Jour. Je. 1929, 40.
- Hoffman, U. G. and Booth, W. S.
Consolidation of Schools in Illinois.
Ill. Dept. of Ed. Cir. 152.