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A FINANCIAL SURVEY
of
THE MISSOULA CITY SCHOOLS
including
THE MISSOULA COUNTY HIGH SCHOOL

by

THOMAS DELANEY WYNN
B.A. University of Washington, 1927

Presented in partial fulfillment of
the requirement for the degree
of Master of Arts.

State University of Montana

1935

Approved:

W. E. Maddox

**Chairman of Board
of Examiners.**

W. G. Bateman

**Chairman of Committee
on Graduate Study.**

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INTRODUCTION

The purpose of this study is to make a financial survey of the Missoula schools, including the Missoula County High School. It will show the amount of wealth Missoula has in proportion to its school population, the number of children it has to educate, the amount of money available for the support of schools, the amount of money spent for the support of schools, and the cost of education in Missoula. This latter will include the total and per pupil average daily attendance costs for the entire system, the total and per pupil costs for each building in the system, the total and per pupil costs for each grade in each building, and subject costs, as English, mathematics, history, science, and so forth, for the High School.

The figures used were obtained from the office of the Superintendent of the City Schools, the office of the Principal of the High School, and from the annual report of the County Superintendent for Missoula County. All figures are for the school year 1933-34.

No attempt is made at a comparison with other school systems, but it is hoped that the materials for this study may be of some value to students of school finance, and for others who may attempt the same type of a survey for other school systems. They may be able to make some comparisons that could be of value.

TABLES and CHARTS

- TABLE 1 - The total population, the school population, enrollment, and average daily attendance (A.D.A.) for District No. One, and for Missoula County.**
- 2 - The percentage the school population is of the total population, the enrollment is of the school population, and the average daily attendance is of total population, school population, and of gross enrollment.**
 - 3 - The wealth of District No. One and Missoula County, true and taxable; per capita, total population, per pupil average daily attendance, and per teacher employed.**
 - 4 - The amount of money available for the school for the school year 1933-34.**
 - 5.- Expenditure by the different budgetary item totals.**
 - 6 - The percentage of the total and the amount per pupil in average daily attendance spent for each budgetary item.**
 - 7 - The expenditures within the different budgetary items.**
 - 8 - The enrollment and percentage of total enrollment by buildings.**
 - 9 - The total cost for each building with the per pupil cost, both for enrollment and average daily attendance.**
 - 10 - The number of teachers, pupils in average daily attendance, the number of pupils (A.D.A.) per teacher, and the average teacher's salary for each building.**
 - 11 - Total costs by grades in each building.**
 - 12.-Cost per pupil in average daily attendance by grades for each building.**

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TABLE 13 - The average daily attendance for each grade in each building.

14 - The instruction hours, percentages of instruction hours, number of classes, average class size, and the teacher's salary for instruction hours by subjects.

15 - The subject costs, total and per hour of instruction.

CHART I.

(1) The average daily attendance by buildings shown graphically.

(2) The cost per pupil in average daily attendance shown graphically.

CHAPTER I
THE EDUCATIONAL PROBLEM

What information should be available to the school administrator in developing sound educational policies? Rainey says:

"Before adequate educational policies can be developed, two types of information must be available; the cost of education and the ability of the district to support financial administration." 1

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

In considering this phase of the study, the total population for District No. One (Missoula city schools) and for Missoula county (Missoula county high school) by the U. S. census bureau figures for 1930 are 16,723 and 21,782, respectively. While the school populations are 4898 and 6134, respectively. The enrollments are 2401 and 1284 with an average daily attendance (A.D.A.) of 2116.6 and 1104.7, respectively, as shown in Table 1.

Table 2 shows that the school population (school census, age 6-21) is 29.3% and 28.16% of the total population, and that 48.9% and 20.9% are enrolled in the schools of District No. One, and the County High School. It also shows the percentage of population, school population, and en-

1/ Rainey, H.P. Public School Finance, 1929, Chap.IV.p.80

rollment in average daily attendance (A.D.A.).

District No. One employs 72 teachers with 2401 pupils enrolled for an average of 33.4 pupils per teacher, while the County High School has 39 teachers and an enrollment of 1284, making an average of 32.9 pupils per teacher.

TABLE 1- Showing the total population, the school population, enrollment, and A.D.A. for District No. One and for Missoula County.

| | | | |
|--------------------------------|------|------|--------|
| Missoula, Dist. No. I - 16,723 | 4898 | 2401 | 2116.6 |
| Missoula County - 21,782 | 6134 | 1284 | 1104.7 |

TABLE 2 - The percentage school population is of the total population, enrollment is of school population, and A.D.A. is of total population, school population and of enrollment.

| | Dist. No. I | Missoula County |
|-----------------------------|-------------|-----------------|
| Population of school age | 29.3 % | 28.16% |
| School Population Enrolled | 48.9 | 20.9 |
| Population enrolled | 14.35 | 5.9 |
| Population in A.D.A. | 12.65 | 5.07 |
| School Population in A.D.A. | 43.21 | 18.09 |
| Gross Enrollment in A.D.A. | 88.16 | 86.0 |

Table 3 shows the true and taxable valuations: total, per capita total population, per pupil in A.D.A., and per teacher employed for both District No. One and for Missoula County.

TABLE 3 - The wealth of District No. One and Missoula County; per capita, total population, per pupil A.D.A., and per teacher employed.

| | Dist. No. I | Missoula County |
|-------------------------|-----------------------------------|-----------------|
| Wealth, true value | 25,030,925.00 | 39,877,252.00 |
| taxable value | 7,104,386.00 | 12,175,961.00 |
| Per capita, true value | 1,496.79 | 1,830.74 |
| taxable value | 424.83 | 558.99 |
| Per pupil A.D.A. true | 22,619.66 11,829.35 | 39,067.80 |
| taxable | 6,420.01 3,357.46 | 11,021.96 |
| Per teacher, true value | 347,651.73 | 1,022,493.64 |
| taxable value | 98,672.03 | 312,204.13 |

District No. One has \$5,420.01 in taxable value per pupil in average daily attendance, and \$98,672.03 behind each teacher employed in the city schools. Missoula County has \$11,021.96 per pupil in average daily attendance and \$312,204.13 for each teacher employed in the high school. Against this wealth, District No. One levies a total of fourteen mills; ten mills for the general fund, one mill for the textbook fund, and three mills for the sinking fund. This seems to be adequate for the purposes at the present time. District No. One has been operating with a surplus.

Missoula County levies a special tax for high schools, and a special levy for the interest and sinking fund and receives a small amount from the oil license tax.

Table 4 shows the amount of money available for the schools for the school year 1933-34. The first item, balances at the end of the current year, is for the purpose of meeting expenses that occur during the summer months or up until the time the fall tax money is made available. District No. One ended the year 1932-33 with a balance of \$56,228.00, while the county high school had a balance of \$12,488.91. The balance for District No. One was divided as follows: \$38,636.57 in the general fund; \$6,527.98 in the textbook fund; and, \$10,272.70 in the sinking fund. The details of the high school balance were not given except that \$62.87 was in the general fund and the sinking fund showed a deficit of \$1,379.82. The items in

this table were taken from the annual report of the county superintendent of Missoula County. They show \$239,657.85 and \$130,744.18 as being available for the Missoula city schools and the county high school respectively for the year 1933-34.

TABLE 4 - The amount of money available for the schools for the school year 1933-34.

| | Dist. No. I | Missoula County |
|---|---------------------|-------------------|
| Balance at end of current year | \$56,228.04 | \$12,485.91 |
| Apportionment from interest and income fund | 23,447.44 | |
| Special High School Tax | | 89,459.54 |
| Special Tax for Gen'l. Fund | 67,986.25 | |
| County 6-mill levy | 64,663.28 | |
| Special, Free Textbook Fund | 6,953.66 | |
| Special for Interest and Sinking Fund | 20,103.08 | 26,790.48 |
| From all other sources | <u>276.10</u> | <u>2,008.26</u> |
| Entire Amount Available | <u>\$239,657.85</u> | <u>130,744.19</u> |



The next consideration after we have determined the amount of money available is, How was this money expended?

Table 5 shows the expenditures distributed by the various budgetary items with the total amounts spent and any surplus or deficit that exists. It shows that the Missoula City Schools, at the end of the current year 1933-34, had a surplus of \$55,437.25. While the Missoula County High School had a deficit of \$1,316.95.

TABLE 5 - Expenditures by the different budgetary items, totals.

| | Dist. No. One | Missoula Co. |
|--------------------|--------------------------|--------------------------|
| General Control | \$ 8,602.42 | \$ 7,042.84 |
| Instruction | 131,137.93 | 72,679.08 |
| Operation | 21,258.91 | 9,472.86 |
| Maintenance | 1,179.06 | 854.60 |
| Auxiliary Agencies | 906.41 | 751.95 |
| Fixed Charges | 1,216.87 | 1,728.85 |
| Capital Outlay | 223.50 | 2,074.70 |
| Debt Service | <u>19,492.50</u> | <u>37,416.26</u> |
| Net Amount | 184,220.60 | 132,061.14 |
| Balance | <u>55,437.25</u> | <u>- 1,316.95</u> |
| Grand Total | <u><u>239,657.85</u></u> | <u><u>130,744.19</u></u> |

Table 6 shows the percentage of the total expenditure made for each budgetary item and also the cost per pupil in average daily attendance for each of the budgetary items. The cost per pupil in average daily attendance for the Missoula City Schools is \$88.42, and for the Missoula County High School the same cost is \$119.54.

TABLE 6 - The percentage spent for each budgetary item and the amount per pupil A.D.A. spent on each budgetary item.

| | | Dist. No. 1 | | Missoula Co. |
|--------------------|-------|-------------|-------|--------------|
| | Pct. | Per Pupil | Pct. | Per Pupil |
| General Control | 4.66 | \$ 4.06 | 5.33 | \$6.37 |
| Instruction | 71.19 | \$61.95 | 55.03 | \$65.79 |
| Operation | 11.54 | \$10.06 | 7.17 | \$ 0.57 |
| Maintenance | .64 | \$.55 | .68 | \$.80 |
| Auxiliary Agencies | .50 | \$.42 | .57 | \$.69 |
| Fixed Charges | .71 | \$.62 | 1.30 | \$ 1.56 |
| Capital Outlay | .17 | \$.15 | 1.58 | \$ 1.87 |
| Debt Service | 10.59 | \$ 9.20 | 28.33 | \$33.87 |



Table 7 shows how the money in the different budgetary items was spent.

TABLE 7 - The expenditures within the different budgetary items.

| | District No. I | Missoula Co. |
|------------------------------|----------------|--------------|
| GENERAL CONTROL: | | |
| School Board and Bus. Office | \$ 3,007.00 | \$ 1,459.32 |
| Salary of Superintendent | 4,207.00 | 4,025.00 |
| Office of Superintendent | 1,208.00 | 1,558.52 |
| INSTRUCTION: | | |
| Principals' Salaries | 13,419.95 | 504.30 |
| Teachers' Salaries | 114,153.87 | 68,590.07 |
| Textbooks | 1,516.50 | 1,650.90 |
| Supplies | 2,047.61 | 1,933.73 |
| OPERATION: | | |
| Janitors, etc. | 13,313.45 | 4,558.95 |
| Fuel, Water, Light, Supplies | 7,945.46 | 4,913.91 |
| MAINTENANCE | | |
| | 1,179.06 | 894.00 |
| AUXILIARY AGENCIES: | | |
| Health | 38.55 | |
| Transportation | 486.50 | |
| Other | 391.36 | 731.95 |
| FIXED CHARGES | | |
| | 1,319.87 | 1,729.85 |
| CAPITAL OUTLAY | | |
| | 323.50 | 1,772.65 |
| DEBT SERVICE: | | |
| Liquidation of Debts | 12,000.00 | 37,415.00 |
| Interest Paid | 7,492.50 | 1.26 |

CHAPTER II

UNIT COSTS

In the past, those persons responsible for the management of our schools have been content to know the aggregate and per pupil costs of education within their school systems, and the amount spent upon the different budgetary items. In the more recent years, however, with the advent and success of cost accounting in business, many educators and students of school finance are attempting to adapt the practice to the business of the schools. They are coming to feel that in order to promote adequate educational policies they must have more information about what the schools cost than the aggregate expenditures and the per pupil cost.

In regard to the facts which should be available, Peel writes:

"In view of the great importance of school government and the ever increasing expense for the purpose, the following information should be available, in the office of every school superintendent.

1. Available revenue for school purposes.
2. The total amount actually received from general taxation, special taxation, dog tax, court fines and penalties, donations, and any other regular and special sources, to date.
3. The expenditures incurred by the administration to date.
4. The total payment, to date and the amount of "encumbrances" against appropriations.

5. The expenditures on:
 - Maintenance of buildings
 - Administration
 - Operation of buildings
 - Instruction
 - Welfare (Health inspection, etc.)
 - Auxiliary Agencies, (libraries, etc.)
 - Fixed Charges
 - Debt Service
 - Capital Outlay
6. The cost of educating a child in each of the schools of the district, county, or town.
7. The total and per capita cost of instruction in English, mathematics, Latin, history, civics, science, etc. Also comparative costs for kindergarten, graded, and high schools." 2

E. Peel. A. J. Simplified School Accounting, Bruce Publishing Co., 1925. p. 17.

CHAPTER III

EDUCATIONAL COSTS FOR EACH BUILDING

In considering educational costs by buildings, it is necessary to apportion to each building its share of the expenditures for the whole system. The success and the value of the information obtained depend much upon the method of keeping the school accounts. If the accounting methods are adequate, all items, such as supplies, both for instruction and operation and maintenance costs, etc., will be charged directly to the buildings. In this study, however, it was only possible to charge the salaries of the janitors directly to the building. For all other items, it was necessary to apportion to the separate buildings the cost on a per pupil basis.

The building costs were figured for the ten different buildings of the Kissonla City School system. In figuring these costs all items that were chargeable directly to each building were so charged. All other items were apportioned to the building on the basis of average daily attendance.

General Control: charged on a per pupil basis as:

Central School with 10.2% of the total A.D.A. was charged with 10.2% of the General Control cost for the system.

Instruction: Salaries of teachers and principals were charged directly to the building and the cost of supplies was distributed on a per pupil basis.

Operation: the salaries of janitors were charged directly to the building and supplies were charged on a per pupil basis.

The other items, maintenance, fixed charges, capital outlay, and auxiliary agencies were all charged to each building on a per pupil basis.

Table 8 - shows the enrollment and the percentages of enrollment for each building that were used in apportioning the various items on a per pupil basis.

TABLE 8 - Enrollment by buildings and the percentage each was of the total enrollment.

| | Cent. | Presc. | Lowell | Pax. | Reos. | Whit. | Wil. | Frank. | Haw. | Line. |
|------------|-------|--------|--------|------|-------|-------|------|--------|------|-------|
| Enrollment | 245 | 126 | 354 | 307 | 275 | 303 | 316 | 296 | 119 | 62 |
| Percentage | 10.2 | 5.25 | 14.60 | 13.6 | 11.35 | 12.5 | 13.1 | 12.3 | 4.55 | 2.55 |

Table 9 shows the total cost for each building with the per pupil costs, also the total and per pupil cost for the entire system.

The Lowell School, the largest in the system, ranks highest in total building cost, but eighth in per pupil A.D.A. cost, which is probably due to the fact that a larger percentage of the teachers in the school are at the maximum salary level than in some of the slightly smaller schools, as the Willard or Franklin, which have a lower per pupil cost. Chart I is a graphical representation with (1) the variance in size from low to high, and (2) the variance in per pupil costs. This shows that the smaller schools have a higher per pupil cost than the larger schools and that the per pupil cost tends to decrease with the increase in the size of the school. This, however, is not the only factor. The average salary of the teachers in the building and the average number of pupils per teacher seem to be the most potent factor in determining the cost per pupil.

TABLE 9 - The total cost for each building with the per pupil cost both for enrollment and A.D.A.

| COST BY BUILDINGS | | | | | |
|-------------------|-------------|------------------|------------------|---------------|-------------|
| | <u>Rank</u> | <u>Cost</u> | <u>Per Pupil</u> | <u>A.D.A.</u> | <u>Rank</u> |
| Lowell | 1 | 25769.25 | 72.51 | 84.82 | 8 |
| Paxson | 2 | 23070.00 | 75.14 | 86.69 | 6 |
| Willard | 3 | 22725.62 | 71.91 | 78.99 | 10 |
| Roosevelt | 4 | 22598.50 | 82.17 | 97.11 | 4 |
| Whittier | 5 | 21975.52 | 72.52 | 85.07 | 7 |
| Franklin | 6 | 21509.70 | 71.93 | 79.54 | 9 |
| Central | 7 | 19631.45 | 80.12 | 101.50 | 2 |
| Prescott | 8 | 10642.36 | 84.48 | 96.39 | 5 |
| Hawthorne | 9 | 10368.80 | 87.13 | 99.70 | 3 |
| Lincoln | 10 | 7137.70 | 113.51 | 124.78 | 1 |
| Total | | <u>184220.60</u> | <u>76.75</u> | <u>88.42</u> | |

(1) The F.D.A. by Buildings.

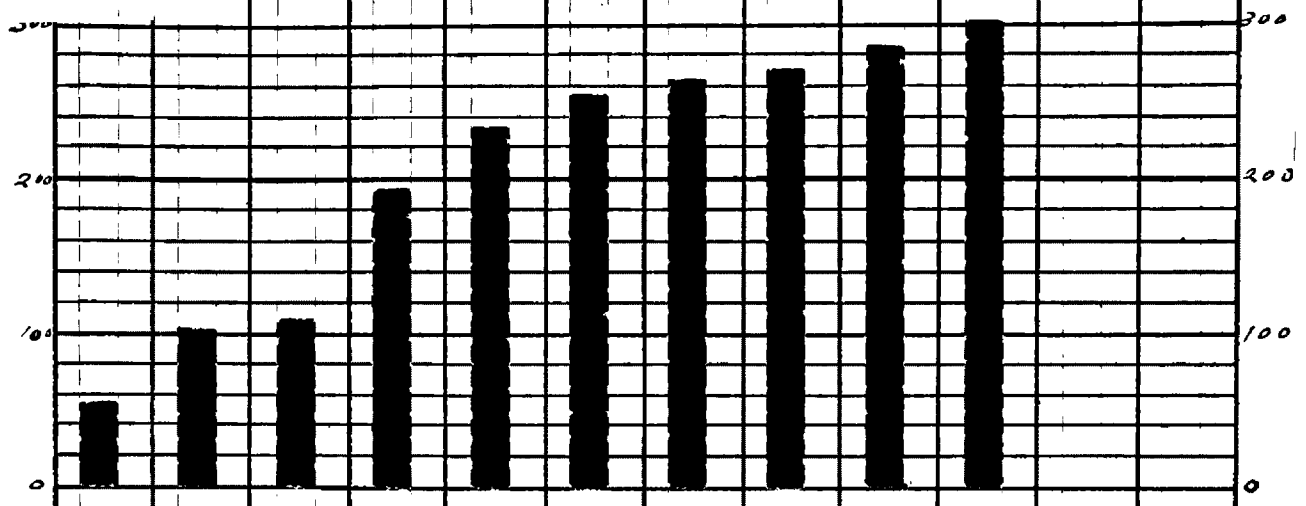
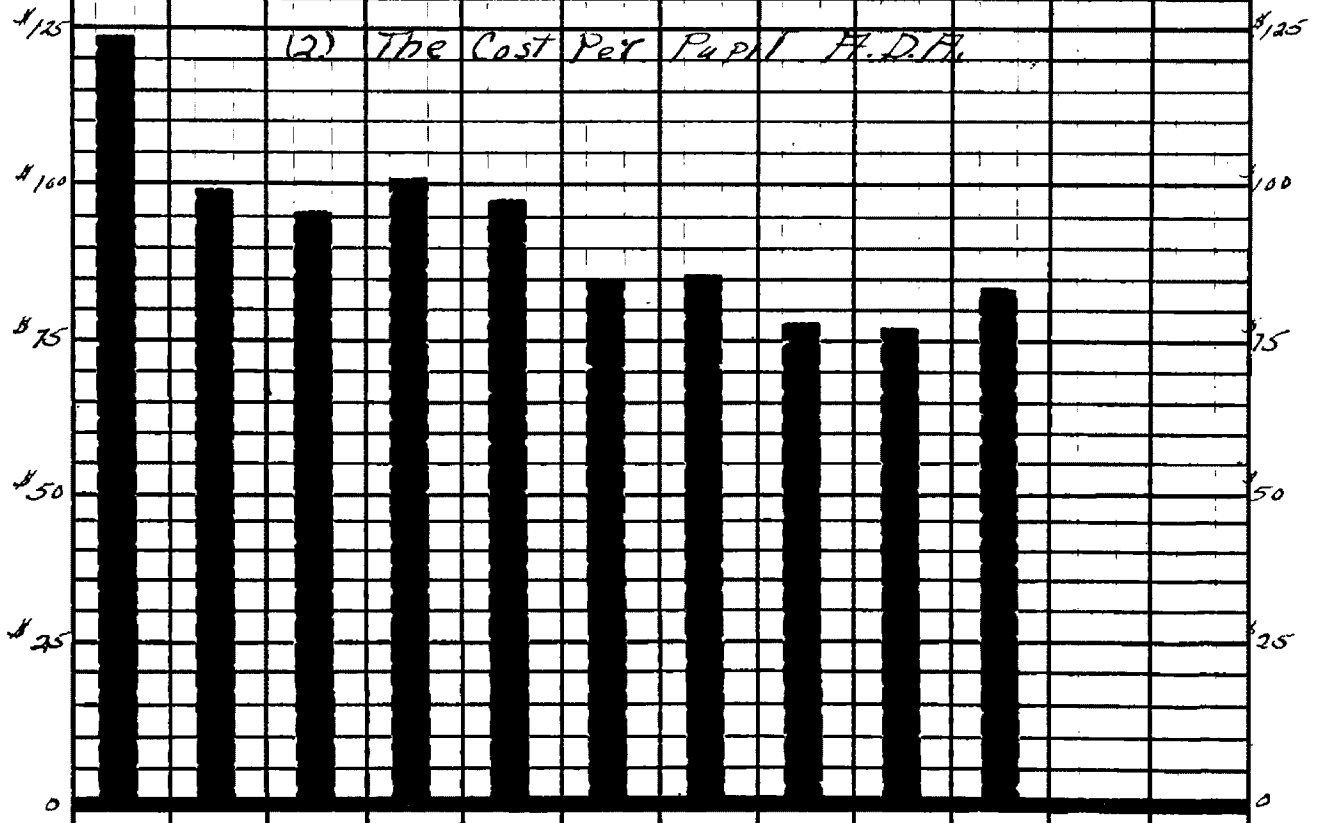


Chart 1.

(2) The Cost Per Pupil F.D.A.



In
Newburne
Present
Central
Roosevelt
Whittier
Poxson
Franklin
Willard
Lowell

Table 10 shows the number of teachers employed in each building, the number of pupils in average daily attendance, the number of pupils per teacher, and the average salary of the teachers in each building. This table shows that the Lowell School has the highest average salary per teacher, while the Willard and Franklin have a higher average of pupils per teacher. This accounts for their having a lower cost per pupil than the larger schools.

TABLE 10 - The number of teachers, pupils in A.D.A., the number of pupils A.D.A. per teacher, and the average teacher's salary for each building.

| <u>School</u> | <u>Number of Teachers</u> | <u>Pupils in A.D.A.</u> | <u>Number per Teacher</u> | <u>Average Teacher Salary</u> |
|---------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------------|
| Lincoln | 3 | 57.2 | 19.06 | 1493.13 |
| Hawthorne | 4 | 104.0 | 26.0 | 1496.60 |
| Prescott | 4 | 110.4 | 27.6 | 1426.25 |
| Central | 7 | 193.4 | 27.6 | 1487.45 |
| Roosevelt | 8 | 232.7 | 29.08 | 1490.85 |
| Whittier | 8 | 258.3 | 32.2 | 1437.05 |
| Faxon | 8 | 265.5 | 33.2 | 1458.12 |
| Franklin | 8 | 270.4 | 33.8 | 1399.02 |
| Willard | 8 | 287.7 | 35.96 | 1 469.02 |
| Lowell | 9 | 303.8 | 33.76 | 1516.44 |

CHAPTER IV

GRADE COSTS

Grade costs were figured for each of the eight grades in each of the ten buildings of the Missoula City Schools. Each grade was charged directly with the salary of the teacher and in instances where a teacher taught in more than one grade each grade was charged with the portion of her time used. In mixed grades this time was divided in proportion to the number of pupils in A.D.A. in each grade in which the teacher taught. Operation and maintenance were charged to the grades in proportion to the floor space used, each grade being charged with the room space it used and its proportionate share of the halls, etc., on a per pupil basis for the entire building.

The other budgetary items were charged to the grade on a percentage in A.D.A. basis for the entire building.

Table 11 shows the total costs by grades and Table 12 shows the per pupil cost of each grade.

While the teacher's salary is an important item in the total grade cost, the number of pupils in that grade is a much larger factor. The larger schools have larger grade costs, but lower per pupil cost. This is due chiefly to the size of the classes. In most cases, the grade class with the largest number of pupils has the lowest per pupil cost except where there is quite a difference in the teacher's salary. The Franklin third grade is third in class size, but has the lowest per pupil cost for the average salaries for the Franklin

are exceptionally low. Table 13 shows the A.D.A. by grades for each building.

TABLE 11- Total costs by grades in each building.

| <u>SCHOOL</u> | <u>GRADES</u> | | | | | | | | |
|---------------|---------------|---------|---------|---------|---------|---------|---------|---------|--|
| Line. | 927.36 | 547.99 | 1070.08 | 1063.54 | 667.90 | 784.58 | 673.83 | 1382.21 | |
| Haw. | 1100.46 | 1094.37 | 1332.27 | 1429.96 | 1692.28 | 978.98 | 1680.50 | 1035.14 | |
| Presc. | 1119.31 | 1881.07 | 1268.46 | 1274.83 | 1375.82 | 1119.24 | 1710.21 | 1842.01 | |
| Gen. | 1636.23 | 1896.70 | 2390.98 | 2334.85 | 2809.17 | 2719.10 | 3051.93 | 2506.81 | |
| Roos. | 2609.48 | 2027.89 | 3083.99 | 2659.46 | 2896.65 | 2807.05 | 3091.91 | 3449.74 | |
| Whit. | 2757.21 | 2433.86 | 2849.43 | 2934.01 | 2457.09 | 2584.39 | 2904.18 | 2715.69 | |
| Paxson | 2722.40 | 2672.74 | 3072.69 | 2619.35 | 3041.89 | 2609.06 | 2891.62 | 3346.54 | |
| Frank. | 2881.17 | 2393.12 | 2567.87 | 2916.20 | 2759.13 | 2697.96 | 2452.01 | 2804.10 | |
| Wil. | 2965.42 | 2469.51 | 2995.66 | 2985.24 | 2526.11 | 2735.99 | 2826.37 | 3208.97 | |
| Low. | 2896.51 | 3044.08 | 3150.14 | 3038.32 | 3790.14 | 4045.33 | 2689.53 | 3065.82 | |

TABLE 12 - Cost per pupil A.D.A. by grades for each building.

| <u>SCHOOL</u> | <u>GRADES</u> | | | | | | | |
|---------------|---------------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Lincoln | 125.31 | 124.54 | 124.42 | 115.50 | 115.15 | 115.38 | 143.35 | 141.04 |
| Hawthorne | 94.86 | 95.16 | 91.25 | 92.85 | 100.13 | 99.89 | 112.03 | 112.51 |
| Prescott | 103.64 | 103.92 | 99.10 | 98.82 | 121.75 | 119.06 | 93.96 | 111.64 |
| Central | 92.44 | 95.52 | 91.60 | 107.59 | 99.61 | 105.38 | 86.45 | 141.62 |
| Roosevelt | 106.94 | 117.90 | 86.38 | 97.06 | 91.95 | 91.73 | 108.10 | 92.73 |
| Whittier | 71.51 | 76.77 | 82.59 | 75.20 | 81.36 | 95.01 | 80.00 | 128.10 |
| Paxson | 95.92 | 96.49 | 81.50 | 101.51 | 82.66 | 75.56 | 70.35 | 101.41 |
| Franklin | 76.62 | 89.96 | 67.40 | 76.54 | 73.18 | 74.73 | 96.33 | 101.23 |
| Willard | 75.84 | 79.40 | 75.38 | 70.17 | 86.30 | 80.98 | 75.26 | 90.39 |
| Lowell | 81.82 | 74.24 | 82.46 | 75.58 | 82.68 | 85.34 | 84.84 | 97.32 |

TABLE 13 - A.D.A. for each grade in each building.

| | GRADES | | | | | | | |
|---------------|--------|------|------|------|------|------|------|------|
| <u>SCHOOL</u> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Lincoln | 7.4 | 4.4 | 8.6 | 9.2 | 5.8 | 6.8 | 4.7 | 9.8 |
| Hawthorne | 11.6 | 11.5 | 14.6 | 15.4 | 16.9 | 9.8 | 15.0 | 9.2 |
| Prescott | 10.8 | 18.1 | 12.8 | 12.9 | 11.3 | 9.4 | 18.2 | 16.5 |
| Central | 17.7 | 20.5 | 26.1 | 21.7 | 28.2 | 25.8 | 35.3 | 17.7 |
| Roosevelt | 24.4 | 17.2 | 35.7 | 27.4 | 31.5 | 30.6 | 28.6 | 37.2 |
| Whittier | 38.5 | 31.7 | 34.5 | 38.5 | 30.2 | 27.2 | 36.6 | 21.2 |
| Parson | 28.5 | 27.7 | 37.7 | 25.9 | 36.8 | 34.5 | 41.1 | 33.0 |
| Franklin | 37.6 | 26.6 | 38.1 | 37.7 | 36.1 | 38.1 | 28.4 | 27.7 |
| Willard | 39.1 | 31.1 | 39.8 | 39.6 | 36.0 | 31.7 | 34.9 | 35.5 |
| Lowell | 35.4 | 41.0 | 38.2 | 40.2 | 38.1 | 47.4 | 31.7 | 31.5 |

CHAPTER V
SUBJECT COSTS FOR THE HIGH SCHOOL

Subject costs are figured on a basis of instruction hours (one pupil for one class period throughout the year) and Missoula County High School has six-one-hour class periods in each school day.

The salaries of the teachers were charged directly to the subjects taught. Operation and maintenance costs were charged to the subject on the basis of floor space used. Classroom space was charged in proportion to the time used. If a subject used a room all six periods, it was charged with the full use of that room, but if it was used only part of the time, it was charged with its use in proportion to the time it used the room. If a room is used by more than one subject, each subject is charged directly with the periods it uses the room. Vacant periods for the room are charged to these subjects in proportion to the time they actually use the room.

The other items of the budget were charged to the subject in proportion to the number of instruction hours in that subject.

Instructional supplies should have been charged directly to the subject using them, but this was not possible for the accounts are not kept separately. This has a tendency to even up the subject costs for the subject with a high supply cost would not be charged with its just share of this expense.

The Missoula County High School is housed in two buildings. The main building housing the academic subjects, and the annex housing the industrial arts subjects. The operation and maintenance costs were not kept separate for the two buildings. This makes it impossible to charge the industrial arts with the use of the power, etc., it actually uses, which tends to make it generally cost more than other subjects.

Table 14 shows the number of instruction hours in each subject, the percentage of total instruction in each subject, the number of classes, and the average size of the classes, and the teacher's salary per hour of instruction.

TABLE 14 - The instruction hours, percentage of instruction hours, number of classes, average class size by subject and the teacher's salary per instruction hour.

| Subject | Instruction Hour | Percent Total | Classes | Ave. Class | Techr. Sal. Per Inet. Hour |
|---------------|------------------|---------------|------------|-------------|----------------------------|
| English | 1208 | 26.6 | 43 | 28.09 | 15.63 |
| Mathematics | 552 | 12.1 | 21 | 26.3 | 12.61 |
| History | 514 | 11.3 | 20 | 25.7 | 14.47 |
| Soc. Science | 300 | 7.0 | 8 | 37.5 | 10.42 |
| Indus. Arts | 172 | 4.0 | 6 | 28.5 | 11.70 |
| Foreign Lang. | 390 | 8.6 | 17 | 23.0 | 16.04 |
| Science | 678 | 14.9 | 24 | 28.3 | 11.91 |
| Commercial | 718 | 15.8 | 25 | 28.7 | 12.38 |
| TOTAL | 4532 | | 165 | 27.4 | |

Table 15 gives the total cost and the cost per pupil hour of instruction for each subject.

TABLE 15 - The subject cost, total and per hour of instruction.

| <u>SUBJECT</u> | <u>COST</u> | <u>COST PER PUPIL HOUR</u> |
|----------------|-------------|----------------------------|
| English | 35,824.63 | 29.66 |
| Mathematics | 14,581.57 | 26.42 |
| History | 14,465.73 | 26.22 |
| Soc. Science | 7,500.54 | 25.00 |
| Indus. Arts | 4,864.64 | 28.28 |
| Foreign Lang. | 11,684.87 | 29.61 |
| Science | 17,554.36 | 25.89 |
| Commercial | 18,859.22 | 26.26 |

With the inadequacy of the accounting for supplies, the cost of teaching becomes the largest variable factor in the cost of the different subjects per hour of instruction. Table 14 shows the cost for teaching by subject and this accounts for English and foreign language being the most expensive subjects. For these two subjects, the salaries paid the teachers are much higher per pupil instruction hour than for the others. The subjects that are usually considered most expensive, industrial arts, science and commercial, have in this case large classes and, therefore, a low teaching cost, which brings their subject cost per pupil hour of instruction down.

In science this is due to large classes in general science and biology, there being seven classes in general science and ten in biology or over two-thirds of the total number of classes in science. There are three classes in chemistry and four in physics, making a total of twenty-four classes in science.

In industrial arts the classes are relatively large and the teachers teach all six periods, whereas in most other cases five periods are all that any one teacher has during the teaching day. This brings the teaching cost per pupil hour down to a level with the others as seen in Table 14.

The commercial subjects have large average classes (28.7) and a comparatively low teaching cost.

This tends to explain why the costs per hour of instruction appear to be so much the same, or with very little differences. The range being from \$25 to \$29.66 or \$4.66, and also explains why English should cost more than some of the others.

Social science has a very high average class size (37.5) and the lowest teaching cost per pupil hour of instruction.

The higher teaching cost for English and Foreign language is due to the fact that the teachers of these subjects have been in the system longer on the average and are, therefore, paid larger salaries.

CHAPTER VI

SUMMARY

1. Missoula District No. One has a total population of 16,723 and a school population of 4898 children of ages 6 to 21 years. Approximately 50% of this school population is enrolled in the city schools and approximately 43% is in average daily attendance.
2. Missoula County has a total population of 21,782 and a school population of 6,134. These figures are for the county as a whole and include District No. I. Approximately 28% of the population of the County are of school age (6-21 years), and approximately 21% of the school population of the county are enrolled in the county high school.
3. Missoula District No. I has a true valuation of over 25 millions, with a taxable valuation of over 7 millions. This gives them approximately \$100,000 per teacher and over \$6,000 per pupil A.D.A. in taxable valuation.
4. Missoula County, including District No. I, has a total true valuation of approximately 40 millions with a taxable valuation of over 12 millions. They have approximately \$312,000 of taxable valuation for each teacher employed in the high school.
5. District No. I has approximately five-eighths of the true valuation of the whole county and about seven-twelfths of the taxable valuation.

6. District No. I, the Missoula City Schools, had a total of \$239,657.85 available for the use of the schools for the year 1933-34.
7. Missoula County, the Missoula County High School, had a total of \$130,744.19 available for the operation of the high school for the year 1933-34.
8. District No. I spent \$184,220.60 on its schools in 1933-34 and had a balance of \$55,437.25 to carry them over until fall taxes were collected.
9. Missoula County spent \$132,061.14 on the county high school in 1933-34 and ended the year with a deficit of \$1,316.95.
10. District No. I spent approximately 71% and the county high school approximately 55% for instruction.
11. It cost \$98.42 for the Missoula City Schools and \$119.54 for the county high school per pupil in average daily attendance.
12. The Lincoln School, the smallest school in District No. I, had the highest building cost per pupil in A.D.A.
13. The Willard School, with the largest number of pupils in A. D. A. per teacher, had the lowest building cost per pupil in A. D. A.
14. The number of pupils per teacher and the average teacher's salary are the most potent factors in determining building costs per pupil A. D. A.

15. The Lowell School has the highest average teacher's salary \$1516.44 and the Franklin School is lowest with \$1399.02.
16. The Willard School had the highest number of pupils in A. D. A. per teacher, 35.96, and the Lincoln, the lowest, 19.06.

17. Grade cost per pupil in A. D. A.:

| | | | | | |
|---------|---------------|----------|----------|-----|---------|
| Grade 1 | Lincoln High | \$125.31 | Whittier | Low | \$71.61 |
| 2 | Lincoln High | 124.54 | Lowell | Low | 74.24 |
| 3 | Lincoln High | 124.42 | Franklin | Low | 67.40 |
| 4 | Lincoln High | 115.60 | Willard | Low | 75.38 |
| 5 | Prescott High | 121.75 | Willard | Low | 70.17 |
| 6 | Prescott High | 119.06 | Franklin | Low | 74.73 |
| 7 | Lincoln High | 143.36 | Paxson | Low | 70.35 |
| 8 | Central High | 141.62 | Willard | Low | 90.39 |

18. The smaller schools have the highest grade costs per pupil in A. D. A.
19. Subject costs range from \$25.00 for social science to \$29.66 for English, per pupil instruction hour for the school year, a range of \$4.66.
20. The average class size ranges from 23 for foreign language to 37.5 for social sciences.
21. The high school has 4532 instruction hours daily and 165 classes for an average class size of 27.4.

22. The teaching cost for the subjects ranges from \$10.42 for social science to \$16.04 for foreign languages, per pupil instruction hour, a range of \$5.62.

CHAPTER VII

CONCLUSIONS

1. Ability to support schools.

In estimating the ability of Missoula to support its schools, it would not be entirely proper to state that a taxable wealth of approximately \$100,000 per teacher employed was entirely adequate to draw from for such support. On the other hand, Missoula has \$3357 in taxable wealth behind each pupil in average daily attendance. It is difficult to make comparison due to the fact that the basis of assessment and valuation have such a wide variance in different parts of the country. Figures taken from the report of the commission on Educational Problems for California show that in thirty-eight counties having municipalities of over 1,000 population, but no city over 20,000 population, the average assessed valuation per pupil A.D.A. was \$5349. This is stated in terms of assessed valuation to that no comparison can be made with Missoula which uses taxable valuation.

Missoula District No. I had a cash balance at the end of the current year 1933-34 of \$55,437.25, which is available for defraying expenses throughout the summer or until the tax money collected in the

fall is available.

2. The cost of Education.

To figure the cost of education, the total cost and building, grade, and subject costs, accurately, an adequate system of accounting must be employed in order that the different items of expense may be charged to the proper activity.

Davis says: "The current financial problems of most school systems bring into prominence the need for accurate cost accounting in education..... The present need, however, is for an accounting which will cover all costs and for individual grades or subjects..... This necessary accounting cannot be done on any wholesale or general basis. It must be local, specific, and as accurate as any business accounting,"³

If measured by this statement, the accounting systems of the Missoula schools are entirely inadequate. They have made no attempt to keep accounts for supplies, either instructional or janitorial, in such a manner as to make it possible to allocate them directly to the activity using same. This may be due to the inadequate office force in their accounting de-

3. Davis, H. H. Unit Costs of High School Subjects. American School Board Journal, August, 1932. p. 45.

partments.

(a) The total educational cost.

The Missoula City Schools (District No. 1) spent a total of \$184,220.60 and the county high school (Missoula County) spent a total of \$132,061.14 for their respective school systems. These figures in themselves do not reveal much but when we consider the per capita A.D.A. costs of \$86.42 and \$119.54, we are able to draw some conclusions. The following figures from Comstock show the cost for cities of approximately the same size as Missoula.

| | | |
|---|--------|---------------------|
| "Hornell, N.Y. Population 16,250, per cap. cost, 106.72 | | |
| Palo Alto, Cal. | 13,652 | 114.43 |
| Eureka, Cal. | 15,752 | 96.62 |
| Casper, Wyo. | 16,619 | 96.24 |
| Cheyenne, Wyo. | 17,733 | 71.91 |
| Mankato, Minn. | 14,038 | 82.91" ⁴ |

These figures most likely include both high school and elementary school costs so for comparison, Missoula's total per capita cost is \$98.18 and the population is 16,723. In figuring Missoula's cost, however, debt service is included which is no doubt left out in the other

4. Comstock, Lulu Mae, Per Capita Costs in City Schools 1933-34. U.S. Office of Educ. Pamphlet, No. 61, Group 3, p.12

study. This tends to make Missoula costs higher in comparison. So to make a comparison possible Missoula cost not including debt service is \$80.55 which is below the average for the United States. The average for the United States as taken from figures put out by the U. S. Education office is \$87.22 per pupil A.D.A. for current expenses. This same table gives Montana's average as \$113.58.⁵

(b) Building Costs.

The largest buildings most naturally have the highest building cost, but when the per capita A. D. A. costs for the separate buildings are considered just the reverse of this is true. The cost per pupil in A. D. A. by buildings ranges from \$78.99 to \$124.78, a range of \$45.79. The five larger buildings range from \$78.99 to \$86.89 or \$7.90 and the five smaller buildings from \$96.39 to \$124.78 or \$28.39. The five larger schools range from 32.2 to 35.96 or 3.76 pupils, while the five smaller schools range from 19.06 to 29.08 or 10.02 pupils.

The range in per capita costs for the larger schools of \$7.90 does not seem excessive when it is considered that it is impossible to regulate the average number of pupils per teacher or the average teachers salary in each school to a uniform standard, but it does not seem right that one

5. Statistics of State School Systems, U.S. Bureau of Education Bulletin, No. 5, 1930, Tables 5, p. 28.

child in the same system should cost \$45.79 more than another who may live in another part of the city. This excessive cost of the small school should be solved in some way. It might be that by redistricting the city or by transportation of pupils, the district could reduce its costs to a more uniform standard throughout the city. This probably could not be done economically enough due to past and present conditions that already exist in the district to make it worth while. In fact, I believe that under existing conditions, the present arrangement is the best possible. Why should the costs in the Lincoln district, for example, be \$45 more per child than in the Willard District when they could receive the same or better education in a more economical way?

(c) Grade Costs.

The costs by grades are influenced largely by the salary of the teachers and the size of the class. If a certain class happens to have a teacher that is new in the system, its grade cost will be much lower than that of a similar class with a teacher that has attained the maximum salary. The size of the class affects the grade cost per pupil in A.D.A. The larger schools where larger classes are possible, have the much lower grade cost except in cases where a certain grade is exceptionally small in pro-

proportion to the other grades. On the average, the eighty grade costs more per pupil due to the fact that the principal in the larger schools teaches classes in this grade. His salary is above that of the maximum for the regular teacher.

(d) Subject Costs in Missoula County High School.

The cost of teaching one subject to one pupil during the school year in Missoula County is not accurate. The subject costs are only approximately correct due to the inadequacy of the accounting for the supplies. Since no accurate account was kept of such supplies, it was necessary to charge supplies to each subject on a pupil instruction hour basis. This prevents the subject costs from revealing the true situation for subjects like industrial arts, science, and etc., that use expensive supplies in proportion to the number of instruction hours in these subjects. Then other subjects are forced to carry an excess of supply cost. However, the largest item of expense, teachers' salaries, were charged directly to the subject. The salary cost, that is what it costs for the teacher's salary, to teach one pupil one class period for the school year, is much higher for foreign language and English than for any other subject. This is due to the fact that the teachers of these subjects receive a higher average salary

than the others for the English classes are slightly above the average size. Foreign language classes are slightly below.

The social science classes are the largest, averaging 37.5 pupils per class and they also have the lowest teacher cost, and the lowest subject cost per pupil hour of instruction.

The Missoula County High School should keep adequate accounts of supplies used by each subject.

They should keep separate operation and maintenance records for the two buildings used so as to make it possible to figure accurately the power, light, etc., used by the industrial arts department.

In fact, both the Missoula City Schools, and the County High School should adopt an efficient and accurate method of cost accounting. This, however, would probably cost too much in proportion to the benefits to be derived to make it worthwhile.

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