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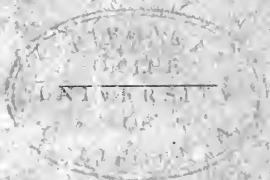


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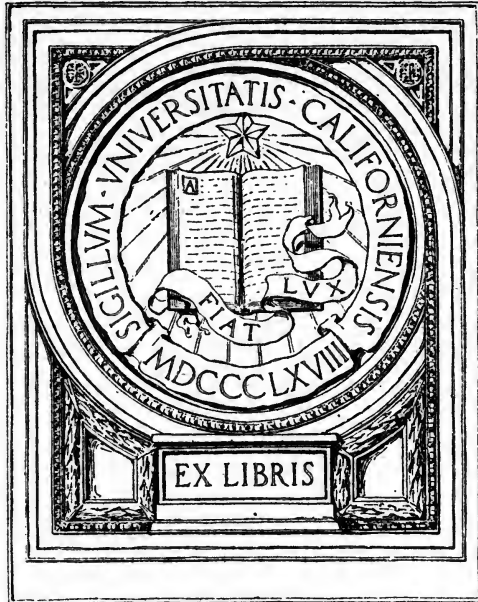
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of Leavenworth, Kansas

BUREAU OF EDUCATIONAL MEASUREMENTS AND STANDARDS

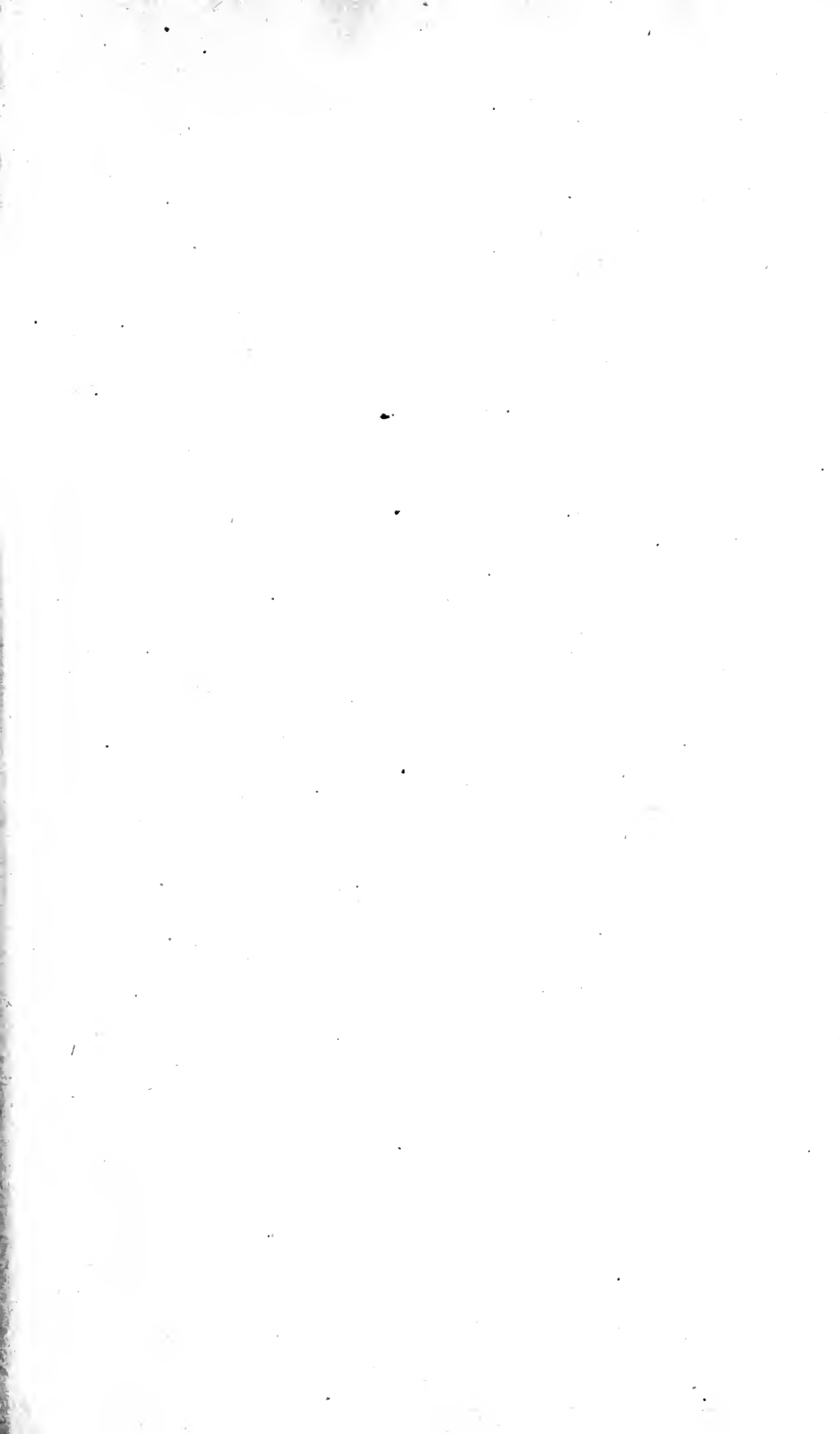


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Report of a Survey of the Public Schools  
of Leavenworth, Kansas

BUREAU OF EDUCATIONAL MEASUREMENTS AND STANDARDS

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UNIVERSITY OF  
CALIFORNIA

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## REPORT OF A SURVEY OF THE PUBLIC SCHOOLS OF LEAVENWORTH, KAN.

A survey conducted under the auspices of the Kansas State Normal School.

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THE BUREAU OF EDUCATIONAL MEASUREMENTS AND STANDARDS.

IT IS RECOGNIZED that the product of instruction in school is complex; that it at least consists of habits, knowledge, and ideals. At present we have no instruments for measuring ideals or knowledge, but we do have several instruments which can be used to measure certain specific habits; *e. g.*, the Courtis tests in arithmetic, the handwriting scales of Ayres and Thorndike, the spelling tests of Buckingham and Ayres, the drawing scale of Thorndike.

To measure the *habit* portion of the product of instruction does not mean that knowledge and ideals are considered less important. The latter are not measured simply because, as stated above, educational experts have not discovered a means of doing the work.

In order that the schools of Kansas might have a central place where tests like those mentioned above could be secured and results compiled, the State Board of Administration established at the Kansas State Normal School the Bureau of Educational Measurements and Standards. The character and work of the bureau may be stated as follows:

1. It is to be a *state* bureau.
2. The work of the bureau must be coöperative.  
The Kansas State Normal School will provide expert direction and clerical assistance. The superintendents and teachers of the state can furnish information, etc.
3. The function is—
  - a. To make accessible to the superintendents and teachers of Kansas tests and scales.
  - b. To establish *Kansas* standards.
  - c. To devise new tests.
  - d. To investigate problems of school administration and provide comparative data for the use of superintendents and boards of education.
4. Although this bureau has been established recently, this type of work was begun by the Kansas State Normal School over a year ago. This year (1914-'15) the Courtis tests have been made accessible to the superintendents. An algebra test and a silent reading test have been devised. The cost of instruction in high schools and retardation in elementary schools are being investigated.
5. The work of the bureau will be published.
6. Similar bureaus or departments have been established in nine cities of the United States, and in less than that number of colleges and universities.

School surveys represent one form in which measurement is being applied to school systems.

The survey of the Leavenworth Public Schools was made by members of the faculty of the Kansas State Normal School, together with other educational experts for whose contribution to the success of the survey this institution desires to express its appreciation.

This report is published because it contains, it is believed, much material sufficiently general to make it of value to superintendents and boards of education throughout the state.

THOMAS W. BUTCHER,

*President Kansas State Normal School.*

EMPORIA, KAN., November, 1915.



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# Report of a Survey of the Leavenworth Public Schools, Leavenworth, Kansas.

## PREFATORY STATEMENT.

Walter S. Monroe, Director of Survey.

**T**HIS Survey was initiated by the superintendent and teachers of Leavenworth. An executive committee was selected and a fund sufficient for defraying the expenses of those engaged in the work was raised by contributions from the teachers and Board of Education. The Executive Committee invited the Kansas State Normal School to assume the responsibility of the Survey. In consultation with the Executive Committee, the Survey Staff were selected by the Director of the Survey and the assignments of sections of the report were made to the members of the Survey Staff. In this final report these sections appear under the name of the member to whom they were assigned.

## DATE OF THE SURVEY.

The work of the Survey began with a visit by Dr. Charters, Dr. Smith, Miss Porter and myself to Leavenworth, January 21-23, 1914. The work done on this visit was of a preliminary nature. Within the period from February 10 to 15 I visited Dr. Charters, Dr. Bagley and Dr. Bobbitt, who went over with me the plans which had been made for the Survey. February 22 and 23 I again visited Leavenworth in company with Dr. Bobbitt. Dr. Smith, Miss Porter and I were in Leavenworth from March 7 to 21, Miss Cooke from March 15 to 21, Miss Dobbs from March 17 to 21. And finally Dr. Bagley, Dr. Smith, Miss Porter and I spent April 9 to 13 in Leavenworth. In addition, during the week of May 10 to 16, I again visited Dr. Charters and Dr. Bobbitt, who went over a preliminary draft of the report with me, and I also visited Miss Dobbs and Miss Cooke and discussed with them their sections of the report.

## COÖPERATION.

While the Survey Staff were all together at Leavenworth in March, frequent conferences were held and preliminary drafts of several of the sections were read and discussed. We found a surprising agreement on the points of excellence and criticism and on the recommendations for improvement. In addition, the three members of the Staff who reside in Emporia have been in constant communication, and together have gone over the entire report. Thus, although the sections of this report appear as the work of individuals, they represent in a very great degree the combined judgment of the entire Staff.

The report represents a coöperative enterprise. Practically all of the data relating to buildings and material equipment and many other items were collected by the superintendent with the assistance of the teachers. The tests were given by the principals and teachers, and most of the

clerical work, except the typewriting, was done by substitute teachers. The manuscript of the report has been read and criticised by the superintendent and teachers.

#### RECENT IMPROVEMENTS.

A school system may be judged not only by its present status but also by its present tendency. What it is is scarcely more important than the spirit which shows what it is to become. That the progressive spirit is abroad in the Leavenworth Public Schools is shown by the fact that within the last few years several important improvements have been made. A few of the more significant are:

1. Departmental instruction has been introduced in the upper grades.
2. Supervisors have been added to the teaching staff, particularly in physical training, music, and arts and crafts.
3. Manual training and domestic science have been added to the program of studies in both the elementary school and the High School.
4. A splendid system of records has been introduced.
5. A beginning has been made in acquiring playground apparatus and more attention is being given to playground supervision.
6. Several parent-teacher associations have made a healthy beginning.
7. Several valuable readjustments have been made in the curriculum, *e. g.*, less formal grammar is taught.

The last two of these improvements belong to the present year. A number of others are planned for the coming school year.

A more important index of the progressive spirit than the specific facts mentioned is that a comprehensive survey of the public schools has been inaugurated by the teachers, and in a large part financed by them. Thus the schools have willingly been subjected to such scientific measurements as were available, and data have been secured which can be used as the basis of future plans for improvement. All these facts, together with many others, show that the Leavenworth Public Schools are rapidly increasing in efficiency and a broad foundation is being made for continuous improvement.

The existence of a weakness or fault in a school system is not necessarily a criticism of the superintendent, principals or teachers. It may be due to tradition, to unavoidable conditions, or to the community, and perhaps the weakness or fault has already been recognized and the condition is being improved as rapidly as possible. This is certainly true in several instances in the Leavenworth Public Schools.

Some of the recommendations and suggestions appearing in the following chapters must be considered as ideals which will be approached slowly. On the other hand, others are capable of relatively immediate realization. Probably no greater disaster could grow out of this Survey than that it should lead to an immediate attempt to inaugurate and realize all the recommendations made. Careful thought must precede all changes, and improvements will come slowly. It is necessary always to keep in mind that a high degree of efficiency in public-school work involves several factors.



## THE PURPOSE OF A SURVEY.

The purpose of a survey of a school system is to stimulate and assist in its future development by revealing existing conditions, recommending plans for enlarging the service to the community, and for increasing the efficiency of the present activities of the school system. The bases for making recommendations are two: First, general principles of education; second, the defects in the present educational practice within the system.

In order that the recommendations may be understood it is necessary to state the principles and the present conditions which form the basis of the recommendations. This frequently requires that considerable prominence be given to the present defects of the school system under consideration.

On behalf of my associates and myself, I wish to express our appreciation of the courteous and helpful assistance which was received at the hands of Superintendent Moore, the principals, the teachers, and the Board of Education. The members of the Survey Staff desire to express their appreciation of the generous assistance which has been given by those acting in the capacity of advisory experts.

## CHAPTER I.

## A GENERAL VIEW OF LEAVENWORTH.

Walter R. Smith.

EVERY institution has its social background. If an organization is to be effective it must not only be adapted to the end in view, but it must be adapted to the people who are to run it. The school is an institution which has been created by society for the definite purpose of training children to take part in the activities of adult life. Any scientific study of a school system, therefore, must be based upon an analysis of the social conditions into which the student is likely to be graduated. Before making a detailed study of the Leavenworth schools, then, a general view of the community is important.

Leavenworth, Kansas, is now a city of about twenty thousand population. It is picturesquely located on bluffs overlooking the Missouri river, twenty-eight miles above Kansas City. Its topography, consisting of rolling hills extending back from the river, is unusually favorable for the development of beautiful home sites and lends itself readily to landscape gardening. These features, as in most western towns, however, have not been fully utilized.

Its population and industries are varied. A number of American elements have united with a variety of foreign immigrants to make a composite population unusual in a mid-western city. Manufacturing, mining, agriculture, and railroad and mercantile interests all contribute to a complex economic and industrial life. In addition, large national and state institutions are located on its borders and greatly influence its life. Altogether, it is an interesting city for observation and study along economic, social and institutional lines. It not only presents the ordinary phases of life in a small city, but furnishes many unique features; and its complex nature creates larger social and educational problems than are found in most cities of its size.

The first house was erected on the site of Leavenworth in 1854. The earliest village organization took place one year later. Its growth into a city was very rapid up to 1870, but since then its population has remained comparatively stationary. The following table shows the population at different dates:

1860	.....	7,429
1870	.....	17,873
1880	.....	16,546
1890	.....	19,768
1900	.....	20,735
1910	.....	19,363

## ECONOMIC FOUNDATIONS.

Three things led to this early growth: First, it was a river town, and access to the eastern world was by boat. This made the obtaining of supplies easier than for most neighboring towns and favored more rapid growth. Second, in 1832 a government post was established on its

borders, and later it became a point of departure for many of the wagon trains headed for the Far West. This made it an outfitting post, calling for stores and other commercial enterprises. An evidence of this demand may be seen in the Planter's Hotel, now a large apartment hotel, which in its day was the most palatial on the river above St. Louis. Third, it was located in a rich agricultural region, which formed a substantial basis for permanent growth.

Two of these three features remain to the present. The paralleling of the river with railroads undermined the river traffic just after the Civil War, but the development of agriculture counterbalanced this loss. Moreover, the federal government not only retained the Leavenworth military post but added a federal prison, a military prison, a training school in military tactics, and a soldiers' home for aged and disabled soldiers. The state also established at Lansing, just south of the city limits, its State Penitentiary.

But the above-mentioned features have not been the only, or even the chief, economic features of the Leavenworth of later years. Manufacturing has long been and remains her largest source of wealth. Factories were established at an early date, and flourished. For several years it seemed Leavenworth was to be the leading city of the region, but several conditions led to the supremacy of Kansas City. A number of Kansas City enterprises were started in Leavenworth, but later business advantages led to their removal to the more rapidly growing railroad center.

#### UNIQUE FEATURES.

The most unique feature of Leavenworth is her state and national institutions. These institutions have influenced the city in many ways. In the first place, they have been an unfailing source of wealth, providing a demand for a variety of agricultural, manufactured and mercantile products.

In the second place, they have been a legally demoralizing force. This is inevitable where large bodies of men congregate and live under a divided governmental authority. The soldier element, whether from the army post or from the soldiers' home, look primarily to the federal government for control and have a tendency to disregard local government. They form an unruly civic element, and in Leavenworth, as in most places, they have succeeded in getting large immunity from local officials. Such a large number of idle or partly idle men with a little ready cash to spend are certain to be riotous at times, and create a demand for amusements of the lower sort. Pension day for three thousand old soldiers is apt to be a jubilation. The writer was informed that, as was to be expected, the old soldiers were "seldom arrested for offenses that would land the ordinary citizen in the lockup." The same was true of the younger soldiers to a lesser degree.

The fact that such a large number of persons are partly exempt from the law has a reactionary effect upon others. Unenforced law undermines respect for law, and discrimination in favor of the soldier element doubtless has some effect upon other citizens.

The third effect of these state and national institutions is to weaken, to a degree, local civic responsibility. Inquiry as to the reason for a lack of city parks brought forth the invariable reply that the government reservation to the north and the soldiers' home to the south were beautiful parks. Show places for visitors were not needed. Concerts at both the above-mentioned places were numerous and free. They were easily accessible. So the only reason for city parks was for playgrounds for the children. It was freely admitted that so many things had been provided by the state and national government that one of the chief virtues asked of a legislator or congressman was the ability to secure these favors. Such an attitude is in line with universal human nature and makes local civic virtue a plant of slow growth, requiring much laborious nurture and scientific cultivation. Thus, there is found a difficult political, educational and religious situation.

There is some evidence, also, that the commercial value of these institutions affects the spirit of business enterprise. The writer was told that the ordinary demands of these institutions are so large that the usual reaching out for new business, advertising, and the hustling spirit are not so necessary as in other places. The same amount of business can be done with less energy than elsewhere, and consequently competition is less keen and inspiring to ambitious effort.

#### INDUSTRIES OF LEAVENWORTH.

Another general factor in Leavenworth calls for analysis. As before stated, it is a manufacturing town. Three large furniture factories, a stove factory, a saddlery and harness factory, agricultural machinery factories, amusement machinery factory, box factories, a packing house, several large flour mills, bridge and structural iron works, many smaller factories and numerous jobbing houses exist. Altogether there are seventy-nine manufacturing plants, employing over 1600 workmen, with a capital stock of \$3,111,000 and producing an annual output of nearly \$5,000,000. They have large pay rolls of both skilled and unskilled men and women. There are likewise coal mines. Formerly three large ones were operated (two at present), besides the one at the Kansas State Penitentiary. They vary greatly in the amount of work offered at different times and seasons. Their pay rolls are large but uncertain, and they assemble many people who naturally create hard school problems. Members of the Survey Staff saw several boys, who ought to continue in school, sometimes accompanied by their parents, asking for age permits that they might drop out of school and go to work.

These two industries, mining and manufacturing, necessarily lead to the importation and development of a large day-laboring class. Extreme economic planes are inevitable. The employing class and the working class in these occupations are far apart in standards of living. They clash in many of their ideals. Where these elements form as large a portion of the population as they do in Leavenworth, mixed civic aims, varied political motives, and uncertain institutional conditions exist. Social, political and cultural organization is difficult. And where organization for these purposes is difficult, there are likely to be found a social

aristocracy, the political boss, and a certain amount of cultural cant. Evidence of the existence of some of these things may be found in many of her institutions. The officers at the fort, the old families, and ambitious wealth have formed an exclusive social atmosphere. Many of the negroes, some of the laboring elements, and party fealty have made control by bosses easy. Cultural agencies have been largely for the few. During the whole generation from 1870 to 1904 the public High School charged all students a tuition fee.

RACIAL COMPLEXITY.

As the previous analysis of the industries of Leavenworth would indicate, the population is varied. The early settlers were of the usual eastern Kansas type. Many crossed over the border from Missouri. The regular stream of westward migration from the Northeast, East, South, and Middle West left its due portion. It is not a New England settlement, nor is it southern, nor foreign. No one element of the population dominates. Agriculture, mercantile business and the usual city industries are mainly controlled by the American and the better foreign stock. Moreover, the city is now getting old enough to be strongly moved by the "native son" element.

Above this native substratum is a great variety of foreigners and their descendants. Large German, English, Jewish and Polish elements are present. Many Italians and eastern Europeans also are found. It is to be noted, however, that Leavenworth was very fortunate in getting a high class of immigrants. The negro population is large for a Kansas town, comprising 12.79 per cent of the total. This large element has led to the segregation of the negroes into separate schools until the High School is reached. The last census report gives the following figures for the distribution of the population according to race:

Native white, native parentage .....	8,973
Native white, foreign or mixed parentage.....	5,444
Foreign-born white .....	2,464
Negro . . . . .	2,477
Indian, Chinese and Japanese.....	5

FOREIGN-BORN WHITE OF LEADING NATIONS.

Austria . . . . .	154
Canada . . . . .	74
England . . . . .	174
Germany . . . . .	1,221
Ireland . . . . .	342
Russia . . . . .	165

While this diversity of race stock does not create the serious problems found in the foreign districts of our large cities, it does create problems not generally found in neighboring cities. The foreign immigration was mainly of an earlier day and of a superior class, so that practically all the children now speak English. But divergent ideals and different standards of education complicate the educational situation and explain the rather large percentage of illiteracy. The percentage for the whole state of Kansas in 1910 was 2.2, and for the urban population it was 2.4.

Over against this is Leavenworth's 3.3 per cent. The illiterate males of voting age comprise 2 per cent of the total for the state, while in Leavenworth they comprise 3 per cent of the total.

#### SOCIAL ORGANIZATIONS.

Institutionally Leavenworth shows the effect of the complexity of her problems and the influence creating them. Social organization is difficult. Twenty churches serve the twenty thousand people, except for half a dozen or more negro churches. There are four Catholic churches—German, Irish, Polish and negro—two Jewish, two Methodist, and one each of the following denominations: Presbyterian, Congregational, Christian, Episcopal, United Brethren, Lutheran, Evangelical, Baptist, Independent, and Christian Science.

In addition to the churches, there is a strong Y. M. C. A. It has an adequate building of its own, with a secretary, a physical director, and an annual budget of \$6000. Its active membership is 310, and its work varied. Within the last year a Y. W. C. A. has been organized. The promise is large, since it has enrolled 650 members, has just employed a full-time secretary, has started various enterprises, and is planning a well-equipped building for the near future.

The public library is elegantly housed in a Carnegie building and well cared for. It has an annual budget of about \$6000, a collection of 21,658 books, and an annual circulation of over 66,000. It is doing a variety of community service and working well with other institutions. Special collections of books are lent to the elementary schools and issued from the school buildings. Some of the churches have libraries, and likewise the separate schools.

The fraternal organizations of the city are of the usual type. The Elks have an elegant club house, and there is a well-equipped Turnverein. The labor organizations are also strong. But there is in general an apparent lack of recreation facilities of an organized type. Theaters exist, and "movies" galore, but they have been without adequate supervision. Plans to improve the supervision are started and coöperation with the schools is being fostered. Sociability is mainly along class lines. This lack of organized amusements only lends strength to the unorganized and illegitimate type, and makes law enforcement more difficult. Two small supervised playgrounds exist. They are treated as matters of charity, with but small interest or attendance. In the heart of Leavenworth is a population of 10,000 people with not a single play space larger than a town lot. Social, cultural and civic clubs exist, but not in profusion. Two women's clubs are affiliated with the Federation of Women's Clubs, and a Woman's Civic League is just awakening to its larger possibilities. Commercial and business clubs also exist. But the varied interests, ideals and occupations of the people have prevented elaborate social and philanthropic organization and rendered ineffective many of the existing efforts at coöperation in social and civic affairs.

#### SCHOOLS.

The school interests and facilities are varied. The school census of 1913 indicates an eligible school population of 6649. This has remained practically stationary for a quarter of a century. A mixed population

and native conservatism have led to a large demand for private and parochial schools. Consequently the public schools are not so large as the size of the city would lead one to expect. For several years the average attendance at the parochial schools has been above one thousand and that at the public schools three thousand.

Leavenworth has not been as liberal in supporting her public schools as the other Kansas cities of the first class. For years the tax levy for the support of schools has been beneath that of her sister cities. The school levy for cities of the first class for a period of ten years has been studied, and while not all of the information is obtainable, enough is at hand to show that Leavenworth ranked lowest until the last two years, and is still below the average. A table showing comparative tax levies may be found on page 48.

Not only has Leavenworth failed to tax herself liberally for the maintenance of her schools, but half a dozen years ago she voted down a bond levy for needed additions to the high school building. Later the school board raised the taxes and built the additions, but with many forebodings, and the present very moderate levy causes much public dissatisfaction.

A less tangible proof of a lack of active interest on the part of citizens of Leavenworth in her public schools appears in the small number of visits to the schools by the public and a lack of support for school enterprises. This was repeatedly brought out in conversations with the public, with the teachers, with high-school students, and was reflected in the recently organized parent-teacher associations. Personal politics in the shape of a quarrel between a former superintendent and a high-school principal had been allowed to divide the city into factions. For years party politics were allowed to enter into the election of the school board by automatically dividing the members to be chosen between the dominant parties. The provincial and in-breeding spirit has allowed unnecessary preference to local applicants for teaching positions, and favoritism instead of merit has had too much influence in the selection of teachers until very recently.

Happily, most of these evils are eliminated or are in the process of elimination. Leavenworth is becoming willing to pay for good schools by liberal taxation. School interest and parent-teacher coöperation are being fostered. Personal and party politics have largely disappeared in school matters. Teachers are being selected on their merits, paid a fair salary, and are being given friendly social recognition. If Leavenworth schools are going to improve—and every single chapter of this report will indicate that they are improving—public interest, public support and public coöperation are necessary; and these agencies must be held as responsible for that improvement as the school authorities themselves.

#### COMMUNITY SPIRIT.

One other phase of the city needs to be analyzed, and that is its general community spirit. That it is a cosmopolitan community follows from its varied industries and heterogeneous population. But this cosmopolitanism is of a mixed type. Class lines are evident in Leavenworth.

This social stratification makes church work, clean government, commercial coöperation and school democracy more difficult than in a more homogeneous community. Some radical elements and some progressive elements are found; but in the main, conservatism dominates. It is quite un-Kansan in this particular. New movements, new parties, new ideals and all sorts of fads make headway slowly. Ritualism in religion, formalism in education, party regularity in politics, negativism in amusements and respectability in society are necessarily in danger of overemphasis. There is evidence that in the past they have been too influential; but along each of these lines improvements may be noted.

As previously pointed out, a high standard of civic virtue is not to be easily obtained in such a mixed and uncertain environment. The number of temporary and irresponsible residents is so large that the ordinary amount of civic conscience in the responsible native elements can scarcely be expected to secure adequate sanitation and cleanliness in many quarters of the city. The spring clean-up day is needed oftener.

Leavenworth is well paved and the streets seem to be well cared for; but in the outlying districts and the draws and the unused lots neglect is apparent. The river bluffs are picturesque and might well be utilized for parks and playgrounds, to the benefit of large numbers of people. A general campaign on the part of her newspapers and organized clubs to develop a spirit of coöperation and local pride based upon real accomplishments would aid much in the civic reawakening which is at present visible in many parts of the city's life.

#### OCCUPATIONAL ANALYSIS.

A very excellent occupational analysis of Leavenworth has been made by Superintendent M. E. Moore of the Leavenworth Public Schools. It is a type of work that ought to be done in many cities. It, together with a study of the causes of elimination in all grades, should form the basis for a reëxamination of the curriculum and its administration in both the elementary and high schools. This should be done with the idea of better adapting them to the pupils while in school and better fitting these pupils to take an effective part in the industrial and social life of Leavenworth or some similar community after leaving school.

It is here appended, not only for its value in Leavenworth, but as a worthy bit of community study that might be valuable elsewhere in the educational field.

TABLE I.

#### *Occupations Taken from the Directory of 1912.*

<i>Occupation.</i>	<i>Number of whites.</i>	<i>Colored.</i>	<i>Total.</i>
Chauffeurs .....	9	.....	9
Undertakers .....	10	1	11
Reporters .....	11	.....	11
Accountants .....	252	2	254
Pharmacists .....	14	1	15
Civil engineers .....	3	.....	3
Agents and salesmen.....	174	1	175
Apprentices .....	44	.....	44
Bookbinders .....	6	.....	6



SURVEY OF PUBLIC SCHOOLS, LEAVENWORTH, KAN. 21

<i>Occupation.</i>	<i>Number of whites.</i>	<i>Colored.</i>	<i>Total.</i>
Contractors (a) .....	5	....	5
Contractors (b) .....	54	....	54
Doctors, lawyers, dentists.....	79	4	83
Managers (a) .....	247	2	249
Managers (b) .....	28	....	28
Managers (c) .....	20	....	20
Machine operators (a).....	100	3	103
Machine operators (b).....	182	2	184
Painters, decorators .....	117	3	120
Telephone and telegraph operators.....	91	....	91
Photographers .....	12	....	12
Iron workers .....	125	....	125
Silver and gold workers.....	10	....	10
Railroad employees (a).....	41	....	41
Railroad employees (b).....	159	5	184
Woodworkers .....	450	25	475
Cement workers .....	93	....	93
Stone workers .....	10	....	10
Plasterers .....	90	2	92
Soldiers .....	106	29	135
Clerks (a) .....	40	4	44
Clerks (b) .....	619	1	620
Laundresses .....	33	55	88
Teachers .....	125	13	138
Publishers .....	15	....	15
Widows .....	767	178	945
Dealers (a) .....	17	....	17
Dealers (b) .....	320	8	328
Confectioners, hucksters .....	31	3	34
Bakers (not proprietors) .....	12	....	12
Domestics .....	82	80	162
Electricians .....	27	....	27
Engineers, firemen .....	131	3	134
Messengers .....	20	2	22
Shoemakers .....	29	2	31
Stenographers .....	80	2	82
Draftsmen, architects' .....	....	....	3
Milliners (a) .....	15	....	15
Seamstresses .....	184	1	185
Liverymen (a) .....	8	....	8
Liverymen (b) .....	92	2	94
Plumbers, fitters .....	52	....	52
Housekeepers (a) hotel.....	5	2	7
Housekeepers (b) restaurant .....	15	3	18
Housekeepers (c) rooms .....	44	2	46
Housekeepers (hired) .....	10	....	10
Nurses .....	41	3	44
Barbers .....	65	11	76
Mail carriers .....	25	1	26
Real estate, insurance, etc.....	57	....	57
Laborers without mention of steady employment.....	568	209	777
Laborers holding steady jobs, given in directory.....	861	195	1,056
Unclassified .....	764	89	853
Federal employees (mostly guards).....	91	2	93
Miners .....	520	103	623
Farmers, gardeners, florists, etc.....	135	4	139
Cooks (a) .....	8	12	20
Cooks (b) .....	24	23	47
Tailors .....	52	1	53

<i>Occupation.</i>	<i>Number of whites.</i>	<i>Colored.</i>	<i>Total.</i>
Butchers, meat cutters.....	34	....	34
Printers .....	44	....	44
Manufacturers .....	45	....	45
Ministers .....	29	4	33
Students .....	23	1	24
Musicians .....	19	3	22
Totals .....	8,721	1,102	9,823

An analysis of this table shows that 286, or 2.9 per cent of the total number, may be classified as professional workers requiring elaborate educational preparation; 87, or .9 per cent, are business managers needing a thorough commercial education; 1963, or 20 per cent, are commercial workers who need practical commercial training; 2204, or 22.4 per cent, are skilled industrial workers who need first-class industrial training; 3419, or 35 per cent, are unskilled workmen who need at least a practical elementary education; and 1866, or 19 per cent, miscellaneous.

## CHAPTER II.

## GENERAL FEATURES OF THE LEAVENWORTH PUBLIC SCHOOLS.

Walter S. Monroe.

## THE LOCATION OF THE SCHOOLS.

THE Morris, Oak Street, and Third Avenue schools are to-day the large elementary schools of the city. In addition to these, which are for white children only, there are two schools for colored children, the Sumner School in South Leavenworth and the Lincoln School in North Leavenworth.

The Morris School is located in a thickly settled district in North Leavenworth. There is a large foreign element; Poles, Germans, and Italians being most numerous. The United States reservation, containing Fort Leavenworth, borders the city on the north. The army has some influence upon the school. A considerable element (45 per cent) of the people are well-to-do; a few are wealthy and a number are poor. This is an old section of the city, and the population is now drifting slowly to the southwest portion. Mining is the most prominent industry.

The Oak Street School is centrally located, near the business section of the city. The people are well-to-do, mostly merchants, with a few bankers. A few children (30 to 40) come to this school from the western part of the city, where truck gardening is the chief occupation.

The Third Avenue School is in South Leavenworth in the wealthiest section of the city. The district is thickly settled and the school is the largest elementary school in the city. In this school a number of children come to the seventh and eighth grades who live in outlying sections of the city.

The population of Leavenworth, while not growing in numbers in recent years, has been spreading out. This has made necessary buildings to accommodate at least the younger pupils in the outlying districts.

The Franklin School, built in 1903, is a four-room brick building in the southwestern part of the city. The first six grades are taught in this building, and from here the pupils enter the seventh grade in the Third Avenue School. The patrons of the Franklin School are a very industrious laboring class of people. Most of them own their own homes and have sufficient space for gardening.

The Jefferson School, a two-story brick building, was constructed in 1903. Employees at the federal prison, built several years prior to the erection of the Jefferson School, necessarily lived near their place of employment, and this fact led to a demand for a school in this neighborhood. In addition there is an element of prosperous truck gardeners.

The Maplewood School building, originally a seminary for girls, was purchased by the Board of Education in 1890 and rebuilt in 1903. The building has a splendid location in the western part of the city. The first six grades are taught here and the pupils enter the seventh grade at

the Oak Street School. The patrons of the school are mostly laborers, such as machanics, gardeners, bricklayers, stonemasons, and molders.

The Wilson School, a two-room building, was built in 1903 to accommodate a settlement of miners around the Riverside coal mine. Nearly all the miners are foreigners. Some of the patrons work in Helmer's furniture factory.

The Cleveland Park School was organized in 1911 to meet the demands of a population drifting into the southwest portion of the city. The building used for the school is a remodeled dwelling house. The school is located in a community of truck farmers and the employees of two large greenhouses.

TABLE II.

*The Leavenworth Public Schools.*

	Enrollment January 23, 1914.	Number of teachers, including principals.
High School .....	420	20
Third Avenue .....	446	11
Oak Street .....	376	13
Morris .....	380	12
Sumner .....	185	6
Lincoln .....	127	5
Franklin .....	124	4
Maplewood .....	262	6
Jefferson .....	143	4
Wilson .....	39	2
Cleveland .....	28	1
Total .....	2,530	84

## THE ORGANIZATION OF THE SCHOOL SYSTEM.

A superintendent is at the head of the system. For the elementary schools there are a supervisor of arts and crafts, a supervisor of music, a supervisor of physical training, and two special teachers of domestic science and art. At the Third Avenue, Oak Street and Morris schools the principals do only a limited amount of teaching, and the principal of the High School devotes all of his time to supervision and administration. At the other buildings, except Wilson and Cleveland, substitutes relieve the principal at regular intervals.

## THE SUPERVISION OF INSTRUCTION.

The principals are experienced and capable teachers who have been selected for their present positions with considerable discrimination. They are enthusiastic and vigilant in their work. Furthermore, they have the coöperation of their teachers. The teaching staffs of the several schools are well organized, and even details are not neglected. The effectiveness of the class-room supervision is evident in the work of the teachers and in the department of the school as a whole. In the matters of routine the supervision has been very effective.

The supervision in Leavenworth is of the type which is to be found in most schools. Several principals mentioned testing the work of a teacher. These tests were oral and the estimate made of the ability of the class necessarily was a matter of opinion on the part of the principal.

We are just beginning to develop a new type of supervision in which scientific methods of procedure will take the place of personal opinion or prejudice in the valuation of methods and results. This type of supervision, because of its newness, we could hardly hope to find in Leavenworth.

The Courtis Standard Tests in arithmetic have been standardized and are very convenient to use. We have two scales of handwriting which may be used with profit. Other tests and scales are in course of preparation. Within a few years supervisors will have at their command tests and scales which will make possible an entirely different type of supervision, in which facts will take the place of opinion. In Leavenworth the application of measurement to the work of the schools should be under the direction of the superintendent, but he can not take the time necessary for the actual work without seriously impairing his usefulness to the community. Besides, it is more properly the type of work which should be done by the building principals as a part of their work of supervision. In the case of the Third Avenue, Oak Street and Morris schools, the building principals can do much in this way to increase their service to their respective schools and the community.

#### THE SUPERINTENDENT SHOULD HAVE A SECRETARY.

Perhaps the most effective work of the present superintendent has been in creating a stronger community interest in the public schools. The most tangible results of his labors in this direction are the parent-teacher associations which have been formed within the present year. By temperament he is peculiarly suited to render this type of service, and he would be able to serve the community better if he were provided with a secretary, who could attend to many petty details which he is now compelled to take time for.

At present the superintendent must type all his letters, answer all telephone calls except such as the clerk of the board answers, notify teachers of all meetings, file transfer cards, etc. Quarterly reports have been issued this year in mimeographed form. These are valuable, and the practice should be continued with a more complete report at the end of the year. Under the present arrangement the superintendent must do all the work of preparing these reports, even the mimeographing.

This practice is expensive. It makes the highest-salaried man in the whole school system spend a large amount of his time doing what a \$50 to \$75 secretary could do just as efficiently, perhaps more so, since she would be trained for the work and would not have to do it piecemeal. The high-school principal, who does no teaching, is provided with a secretary, and most of the other principals receive clerical assistance from the substitute teachers.

A secretary to the superintendent should be a person who has had sufficient experience as a teacher to understand the work of a school system and who has had office training besides. With a secretary of this type, the work which the superintendent is now doing would be more efficient and the scope of his services could be enlarged.

## ASSISTANT SUPERINTENDENT RECOMMENDED.

The Survey Staff believes the school system would be much strengthened by the addition of an assistant superintendent or educational expert who would rank between the superintendent and the high-school principal. This man should be vitally interested in public-school work, particularly the work of the elementary school, should have had experience as a city superintendent and as a teacher in the elementary school, and must have had recent training in the field of education, especially in school administration of the scientific type.

He should be placed in charge of the normal-training work, but should not devote all of his time to teaching. Under the direction of the superintendent, he should guide the teachers in doing constructive work in the direction of reorganizing the subject matter of the program of studies and in the testing of results. He should take the lead in placing the teaching and supervision in Leavenworth on a scientific basis; that is, upon a basis of facts and not opinions. As we point out in another place, the principals should be in immediate charge of this work, but to make such work most valuable to the community there must be a source of expert advice and a clearing-house for the facts gathered. Data which are collected by means of tests have only small value until they are compared with other data which have been collected in the same way. Such a man as we recommend would be very valuable in comparing and interpreting the data collected; and in order that there may be uniformity it should be collected under his supervision.

To those who may claim that this is just what the superintendent is for, it should be pointed out that the superintendent's office has two functions which are quite distinct. The one is primarily administrative, the second supervisory. In a community the size of Leavenworth, with a teaching staff of nearly 100 teachers and an annual pay roll of over \$65,000, the total work to be done is too much for one man if a high degree of efficiency is attained. The Survey Staff believes that the superintendent can be most valuable to the community by continuing the things which he is now doing, *i. e.*, maintaining a general supervision over the system, interesting the community in the schools, furnishing inspiration for the teachers, and performing the other similar duties of his office. This is enough for one man to do well, and doing the type of detailed work such as we have recommended tends to incapacitate a man for the other duties. By adopting this recommendation Leavenworth will align her school system with the most progressive in the country.

## CHAPTER III.

## THE SCHOOL BOARD.

Walter R. Smith.

THE Boards of Education in first- and second-class cities in Kansas are organized under a general statute of the legislature of 1911. They consist of six members elected for a term of four years each, three being elected every two years. Before the enactment of this law the Board of Education of Leavenworth had consisted of twelve members elected for a two-year term.

The board is organized with a president, vice-president, clerk, and treasurer. The president exercises the functions usually devolving upon that officer, and the city treasurer serves *ex officio* as treasurer for the board, receiving \$50 a year therefor. Since the money is banked by sealed bids there are no perquisites. The clerk is chosen by the board and is required to furnish bond for \$1000. This clerk keeps a journal of the proceedings of board meetings, looks after the records, books and documents of the board, countersigns all warrants upon the treasurer, and must publish an annual report giving details of the board's fiscal operations, and perform such other duties as the board may require. This office has long been an important one in Leavenworth. It pays a salary of \$1200 per year, and for the last ten years has been filled by the present incumbent.

The result of a good salary and the continuous service of the clerk are well demonstrated in Leavenworth. An excellent system of records is kept. The minutiae of administration of such an office call for cumulative knowledge, and only long service can meet the incessant demands for petty detailed services. Supplies for a large school system are multifarious and multitudinous. Specifications for contracts and bids for supplies, blank forms for records, and requisitions, orderly methods of filing information, records and plans, and stowing away materials, call for not only a special type of mind, but can be more effectively done with long practice and continuous experience. The board is to be commended for this general policy, and the completeness of the records and business formulæ would indicate that their choice of a clerk is also worthy.

## POWERS OF THE BOARD.

The powers of the Board of Education are full and complete and their duties are numerous. They are to "make all necessary rules for the government of the schools" and "to exercise the sole control over the public schools and school property of such city." They are to elect a superintendent, teachers, janitors, a truant officer, clerk, etc. All fiscal operations must be under their control. The compulsory-education law must be enforced, and definite provisions for safety in case of fire must be made.

From a comparative standpoint, the most important power lodged with the board, however, is the levy of taxes. It has full control of the

levy for school purposes. The rate may be made whatever it pleases up to six mills on the dollar for running expenses, and above that the board may levy enough to carry the bonded debt of the school district. With these powers, several of the boards in both first- and second-class cities of Kansas have levied seven mills on the dollar and above.

#### COMPOSITION OF THE BOARD.

An analysis of the various boards of education since 1894 indicates an average term of service of about four and three-fourths years. The average length of service of the present board is four years. Frequent elections under the old system led to many short terms, and consequently to a lack of the necessary continuity of service to produce high efficiency. The new method of election for four years is sure to work a helpful reform along this line.

There are two weaknesses inseparable from short terms in public-service corporations. One is that the duties required are so complex that the novice may assume little responsibility and become a figurehead. The other is a far more serious danger. It is generally recognized that in a democracy like ours the most dangerous man, whether in politics, religion, business or the schools, is a man with convictions and no knowledge. All of us are prone to act most impulsively and precipitately in the fields where we are least informed. It is a matter of general observation and comment that the new man on a public-service board is likely to be willing to act first and think afterwards. This applies especially in reform movements, churches and schools, where every one has pretty clearly defined feelings and convictions.

It is greatly to be desired in school boards that thoughtful men should be chosen and continuity of service be maintained where possible. The Survey Staff is consequently ready to urge upon the Leavenworth public the desirability of reëlecting good men, and upon members of the school board the responsibility of serving long enough terms to enable them to become fully conversant with the school system and school needs. This will guard against hasty action and enable boards to work out constructive plans far enough in advance to insure efficiency and economy in any progressive measures.

A school board, to be well balanced, should represent various interests, and big enough men should be elected to consider the needs of various parts of the city. Undue attention to geographical locality, however, is pernicious and should be avoided. The caliber of men elected is much more important than the place of residence of the board member. Under the old system of ward election this dependence upon geographical location was necessary, but under the new system its evils may easily be avoided. Any citizen with a sufficient sense of civic and school responsibility would represent the whole city, not merely the wants of a particular locality.

A history of the Leavenworth board indicates that a representative body of citizens have filled those offices. In the last twenty years, seventeen merchants, nine professional men, seven manufacturers, four contractors, three bankers and thirteen other representative business men



have served the community as members of the school board. Of the present board two are professional men, two are merchants, one is an editor, and one is a railroad man. Two were born and educated abroad, one in New York, and the other three are natives of Leavenworth. All are actively interested in the Leavenworth schools; two have served eight years, two three years, and two are new members the present year. No one was found to question the public spirit or unselfish zeal of a single member.

#### WORK OF THE BOARD.

They are required by law to meet the first Monday in each month and at call. The minutes for the present school year were read by the writer, and interviews were held with each member (except one, who was in Europe). All regular meetings have been held, and one called meeting. These meetings have been from less than one hour to more than two hours in length.

The board is divided by the president into five committees, each member, aside from the president, being chairman of a committee. These committees are as follows:

1. Ways and Means and Supplies.
2. High School, School Laws and Regulations, and Libraries.
3. Teachers and Salaries, Textbooks and Course of Studies.
4. Buildings and Grounds and Janitors.
5. Furniture, Apparatus, Printing and Auditing.

These committees are the real working features of the board, as indicated both by conference and by the length of time spent in general meetings. In fact, it may well be questioned if sufficient time is spent by the board as a body in session to develop a full spirit of coöperation or a large enough body of information about the school system as a whole. Conferences with the board indicated a general rather than a specific knowledge of the conditions and needs of the schools. Inquiries failed to elicit information that any member had done much school visitation or thought over the situation enough to have any constructive plan for the betterment of the schools. While all were open to conviction and ready to accept suggestions for improvement, the attitude was a passive rather than an active one.

Since the members of the board are not technical experts, this attitude is immensely to be preferred to such meddling interference with purely educational affairs as is often found in boards of education, notably in the Portland system, as shown by the recently published survey of the Portland schools. But a little more of a forward look, a little more contact with actual schoolroom work, a little more knowledge of what is being done, a little more conference with teachers and principals, and a little more of specific planning for the ever-enlarging demands of education in the matter of equipment, will yield a rich harvest in putting the Leavenworth Public Schools to the front.

An illustration of the need of advance planning came out in conferences with several different members of the board. They are unanimous in feeling that the greatest need of the schools at present is more room about the buildings for playground purposes. In discussing costs

of adjacent property it was agreed that any knowledge of plans for the purchase of property would lead, in the usual patriotic American way, to an increase of the cost of such property. Yet no plans were being made until the money for such purchases was at hand, although a knowledge of the presence of such plans would guarantee that this additional price would be demanded. Some of the members were unaware that needed property could be acquired under the right of eminent domain. Since the board are agreed, it seems that the wisest and by far the most economical scheme would be to set aside a certain minimum amount of money each year to be used in this expansion.

#### THE RELATIONS OF THE BOARD TO THE SUPERINTENDENT.

The board is to be highly commended for its policy in leaving purely educational problems to the authorities selected for that purpose. The law gives practically complete powers to the board, and many boards are unwise enough not to delegate that authority to experts. Many elect a high-priced superintendent, who ought to know his business, and then proceed to tie his hands with rules and regulations so that his work is crippled. Education is a progressive business, and only a progressive superintendent can keep up with it; and he can not do it if interfered with and hampered by a politically chosen or unprogressive board.

The proper lines of demarcation between the functions of a school board and a superintendent are perfectly clear. The relations should be exactly similar to those between the board of directors of a railway or manufacturing or banking corporation and the active managers of those concerns. The directors advise and recommend, and, if need be, check the president in too rapid expansion of the business or in a manifestly unwise policy. But the successful corporation is managed by a generally unhampered and well-supported president whose reputation is at stake and whose interests are bound up with those of the stockholders. The same must be true of a school system. The superintendent should be very carefully and wisely chosen, and then held fully responsible for the success of the schools. Just as the president of a railroad must be free to select his expert assistants, so must the superintendent be free to select his teachers, even his janitors. When he proves unable to do this wisely he has proved his unfitness for his position.

The Staff is glad to be able to say that this higher policy is followed by the Leavenworth board. They are to be commended for electing their superintendent for two years—as long a term as the Kansas law allows. And they stand back of him in his policies. So far as could be determined, he is allowed full power in the selection of his expert assistants. Teaching efficiency depends largely upon a settled feeling—an identification of the teacher with the whole responsible life of the community. The teacher must feel that his position is secure so long as efficient service is rendered, and only so long. We are glad to be able to say that the Leavenworth teachers feel much of the necessary security in their positions. It is unfortunate that teachers are employed, not as other people are, but to be automatically discharged at the close of a year; but that being the custom, the Leavenworth board do the next best thing by making employment fairly permanent.

## THE PURCHASE OF SUPPLIES.

While this excellent business principle is followed with reference to the superintendent and the teachers, there is a strange lapse from business practice in the purchase of supplies. The factory, or street-railway system, or other large business that allowed a number of inexpert persons to purchase supplies would soon lose out in the competitive struggle. But that is exactly what is often allowed to happen in public business; and the Leavenworth school board has fallen into this antiquated practice. Buying supplies for as large and varied a business as the Leavenworth schools is business fit only for an expert fiscal agent. Most of these supplies are prepared by specializing firms and may be handled cheaply in large quantities. A good fiscal agent knows the firms making them and can buy directly. Such an expert is required to learn the quality and specifications of articles needed and to get unquestioned supplies without delay.

The present board have the confidence of Leavenworth. They are honest. But not a member would maintain that he is an expert buyer of school apparatus. Yet he attempts the role. A requisition for supplies is made out by the clerk; it is countersigned by the superintendent, and then sent to the appropriate committee. The chairman of that committee will then have to see his committee and make the purchase or submit it to the board. Even small and necessary supplies are thus delayed. And what member of the board feels that his judgment is good in regard to the particular sort of things usually needed about a school building?

An illustration was at hand during the Survey. A field meet was being planned by the director of physical training for the last of April. Supplies were asked for during the latter part of February. They were needed very soon. No one objected to their purchase. A requisition was made out and was accepted by the board at its meeting on March 2. The supplies will cost about fifty dollars. It is now the 18th of March, and bids are not called for until April 6. The supplies, therefore, can not be expected before the middle of April—six weeks to make a purchase no one objected to; and this by a board which the public expects to handle expeditiously the business end of public-school work.

There might be some excuse for this unbusinesslike and extravagant method of buying supplies if the means were not at hand for remedying it. But the proper organization already exists. A clerk is paid a good salary to look after details for the board. It is easy and natural for him to learn the specific needs of the schools. He knows what sort of brooms, dusters, crayon, paper, gymnasium apparatus, laboratory supplies, etc., are used, because he has to handle them from the storeroom. His whole time and interest are centered about his work; therefore he becomes the natural fiscal agent for the board. Such should be his chief work, and the Leavenworth board should return to its former practice in this matter, allowing the clerk to purchase the supplies under proper supervision, or else it should appoint some other expert fiscal agent.

Another evil is in the results upon the schools. Teachers ask for supplies, which are delayed so long that a large share of their value has

disappeared before they can be obtained. This happens a few times, and the teachers grow indifferent toward the use of up-to-date tools and illustrative materials. They either do without or through their own zeal go to the expense of buying them out of their own savings. Several of the Staff found teachers using expensively acquired private equipment rather than go through the elaborate process of red-tape required to get it through the board. This puts a tax upon the zealous and progressive teacher and discourages and disheartens the less efficient and less unselfish ones. The total result is that the net salary of the poor teacher is larger than that of her more progressive sister teacher.

On the whole it may be said that the present board is doing its allotted work effectively. It is honest, sticks to its proper function in general, shows courage in levying a fair rate of taxes at present in the face of a not too generous public feeling, and gives unselfishly of its time and energy to an unpaid public service. Any criticism of its work must be largely negative; that is, that it may sometimes lack foresight or depth of knowledge of school problems or enough intensive study of the actual needs of the school system to lay plans in advance for the constructive program much needed in the near future of Leavenworth.

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#### RECOMMENDATIONS.

1. That the board be careful at all times to continue to stick to its own work—the business administration of the schools—interfering only when necessary with the educational administration.

2. That the former excellent practice of turning over the purchasing of supplies to the clerk of the board be returned to, or an expert fiscal agent be employed.

3. That a definite budgetary system be established, whereby all income shall be estimated at the beginning of the year and parceled out to meet the needs of the schools as they have been reported through principals and superintendent.

4. That the present moderate tax rate of six mills on the dollar be maintained for the running expenses of the schools, for the more liberal purchase of equipment, and for the necessary repairs and remodeling needed in some of the half-century-old buildings to adapt them more fully to up-to-date school work.

5. That an expert school architect be consulted for this remodeling and for future school expansions.

6. That a definite and comprehensive plan be carefully worked out for the purchase of additional land about some of the buildings, and a certain sum of money be set apart in each annual budget for this purpose.

7. That a similar definite plan be devised for some of the expansions which all recognize will be demanded in the near future, many of which are recommended in other parts of this report.

8. Finally, that through the press, the parent-teacher associations, and the various cultural and business organizations of the city, a campaign of publicity be inaugurated for the education of public sentiment regarding the needs of the schools and of the commercial and other values of meeting these needs in the building up of a greater Leavenworth.

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## CHAPTER IV.

## ATTENDANCE, PROMOTION AND RECORDS.

Walter S. Monroe.

## THE SCHOOL CENSUS.

IN A CITY the size of Leavenworth the first prerequisite for securing the enrollment of children in school is a reliable census of all the children of school age who are living within the school district. From this census list teachers or some other authorized person should check off those who enter school at the beginning of the school year. The names of those whose age falls within the period of compulsory attendance, and who have not enrolled in school, should be given to the truant officer for investigation. In this way all cases of nonattendance can be checked up, except for pupils who have moved into the district since the census was taken. For these cases the school has to depend upon the coöperative spirit of the community and the acquaintance of the teachers and the truant officer with the community.

In Leavenworth the school census is taken under the direction of the clerk of the Board of Education, who employs competent persons to make the necessary house-to-house canvass. The census is taken upon the blanks provided by the state superintendent for that purpose. The data collected are transferred to cards for the purpose of convenient filing, a card being made for each child. These cards are filed alphabetically, and are used by the truant officer and in making out age certificates. Each year a new census is taken and a new set of cards is made out. There are on file now the cards for the last six years. The only use which is made of the data of the previous year is when a parent or child questions the accuracy of the data for the current year.

The weakness of the system is in not providing an automatic check upon human fallibility. Errors may be made by parents in giving the age of a child. The enumerator may make an error in entering the data. There may be errors in transcribing the data upon the cards. And last, children may be missed even in a careful enumeration. To guard against these possible errors it is recommended that instead of there being a new set of cards each year, the data collected in the blank books be checked on the cards of the previous year. If a pupil had moved, the changed address could be added on the card or a new card made. New cards would be made for those who had moved into the district within the year and for those who had attained school age. The cards remaining from the previous year after this was done would include, first, those who had passed school age, and those who had either died or moved from the district within the year, and second, those who were overlooked in taking the census.

Such a plan would not call for more labor than is now required to make out a new set of cards each year. It would have the added advan-

tages just indicated, and would provide a permanent and continuous school census. During the school year cards should be added to this file for the children who move into the district.

#### THE FUNCTION OF THE SCHOOL CENSUS.

A school census should have functions in addition to giving a count of the children of school age living within the district. For instance, from a school census the number and age of children living in the district and not attending school could be easily determined. Such data, together with the grade attained by the child before leaving school, would portray some of the educational needs of the community. In a city the size of Leavenworth it doubtless would show several hundred boys and girls between the ages of fifteen and twenty-one who are not in school, and some of whom have not even finished the eighth grade. These young people represent an urgent educational need of the community, and if our schools were conducted as a private business, accurate data concerning them would be collected and used in the administration of the schools.

#### ATTENDANCE.

A comparison of the age distribution of the school census for 1913 with the age distribution of the enrollment for the year 1913-'14 shows that there are 826 more children between the ages of eight and fifteen years enumerated in the school census than are enrolled in the Leavenworth public schools. The enrollment in the parochial schools of the city for the year 1913-'14 was given as 1137. Since the work of the parochial schools does not extend beyond the eighth grade, except in one instance, these figures indicate roughly that the compulsory-attendance law is effectively administered in Leavenworth.

TABLE III.

#### *Age Distribution of Children Enumerated in School Census, 1913.*

Age.	Number of children.	Per cent of total.	Age.	Number of children.	Per cent of total.
5.....	382	5.8	13.....	351	5.4
6.....	406	6.2	14.....	388	5.9
7.....	345	5.3	15.....	361	5.5
8.....	370	5.6	16.....	457	6.8
9.....	323	5.0	17.....	493	7.5
10.....	326	5.0	18.....	560	8.5
11.....	332	5.0	19.....	529	8.0
12.....	322	5.0	20.....	572	8.7

At the end of the first month of school, each teacher is required by the rules of the Leavenworth Public Schools to file with the superintendent a list of the pupils enrolled under the teacher. Thus by October first the truant officer has the data necessary for checking up the school attendance. The truant officer has a regular schedule for visiting the several buildings. He also visits regularly the parochial schools. Whenever a transfer of a pupil is made, a card giving the facts is filed with the truant officer. It is his duty to check up the transfer. Thus if the transfer is simply an excuse for leaving school it is detected at once.

REPORTS OF TRUANT OFFICER.

A summary of the annual reports of the truant officer for the past four years is given in Table IV:

TABLE IV.  
*Summary of Reports of Truant Officers.*

	1908-'09.	1909-'10.	1910-'11.	1911-'12.	1912-'13.
Number of cases investigated.....	0	468	303	312	317
Number of pupils placed in school.....	0	247	62	58	43
Juvenile court:					
Before court .....	0	5	13	4	4
Convictions .....	0	5	*13	4	4
Other courts:					
Before court .....	0	0	0	0	0
Convictions .....	0	0	0	0	0
Sent to industrial schools:					
Boys .....	0	2	3	4	4
Girls .....	0	0	1	0	0

\* Nine boys paroled.

The drop from 247 pupils placed in school in 1909-'10 to 62 in 1910-'11 is significant. It shows the influence of a vigorous administration of the compulsory-attendance law. The fact that conviction was secured in every case which was brought before the court indicates that the court is used only as a last resort.

From conferences with the superintendent and the truant officer, it appeared that the law was well and intelligently administered so far as concerned the pupils who entered school in September. For those who do not voluntarily enter school, the system followed has a very evident loophole when applied to a community as large as Leavenworth. A month must elapse before the attendance can be checked up, and then the burden of checking is placed upon the truant officer, who has no clerical help. And the fact that the teacher's lists are on large sheets of paper makes the checking very tedious.

In order that there may be an earlier checking up, it is recommended that the teachers be required to report the pupils enrolled at the end of the first week of school, and to report these data on cards similar to those on which the census data are recorded. When the enrollment cards are alphabetized it will be comparatively easy to determine if all children are in school who should be.

Children who are between the ages of fourteen and sixteen must file with their employer age certificates. In Leavenworth age certificates are issued by the clerk of the Board of Education, who has access to the alphabetized census record. The form supplied by the commissioner of labor and state factory inspector is used. No record of age certificates issued is kept, except that the card is taken from the file and placed in a separate file after being marked. It would seem worth while to keep at least a record of the pupil's age, sex, grade attained in school, and reason for leaving.\*

\* Since this was written a form has been devised by the clerk of the board, on which this and other information is to be recorded in the future.

TABLE V.

*Distribution of pupils according to number of days attending school, not including those who moved into the district or moved from the district during the year and who transferred to and from the parochial schools.*

## ELEMENTARY SCHOOL, 1912-'13.

Number days attended.	Number of pupils.	Per cent of total.	Number days attended.	Number of pupils.	Per cent of total.
180-176.....	815	45.89	95-91.....	3	.17
175-171.....	304	17.12	90-86.....	1	.06
170-166.....	175	9.85	85-81.....	3	.17
165-161.....	117	6.58	80-76.....	3	.17
160-156.....	81	4.56	75-71.....	2	.11
155-151.....	59	3.32	70-66.....	..	....
150-146.....	49	2.76	65-61.....	2	.11
145-141.....	42	2.36	60-56.....	..	....
140-136.....	36	2.03	55-51.....	1	.06
135-131.....	20	1.13	50-46.....	1	.06
130-126.....	13	.73	45-41.....	1	.06
125-121.....	12	.67	40-36.....	1	.06
120-116.....	15	.84	35-31.....	..	....
115-111.....	6	.34	30-26.....	1	.06
110-106.....	6	.34			
105-101.....	3	.17	Total .....	1,776	
100-96.....	4	.22			

## REPORTS OF ATTENDANCE.

In the quarterly reports of the superintendent for the present year the attendance is reported in terms of the number enrolled, number belonging, and the per cent of attendance. This method of reporting is quite usual, but very unsatisfactory, for it fails to reveal the facts which need to be known.

The total days absent for the 1776 pupils in Table V exceeds 20,000. The cost of the instruction which was provided and was not received by these pupils amounts to approximately \$2500. This amount inadequately represents the cost of absences to the city of Leavenworth. This is no small item, and the parents may well bear this in mind when permitting unnecessary absences.

From this analysis of the table it should be clear that this is a more valuable form in which to report the attendance than the one now used. It is a form which is coming to be used, and the writer recommends it for future reports.



TABLE VI.

*Age and Progress of the Pupils in the Leavenworth Public Schools, taken January 20, 1914.*

	I	II	III	IV	V	VI	VII	VIII	F	S	J	Sr	P	Total.
5 yrs.	69													69
6 yrs.	176	31												207
7 yrs.	104	127	23											254
8 yrs.	20	52	95	28										195
9 yrs.	5	26	80	120	18	3								252
10 yrs.	4	18	32	68	70	21	3							216
11 yrs.	2	7	22	44	59	68	17							219
12 yrs.	1	6	12	27	45	63	58	13	4					229
13 yrs.			5	25	26	71	67	31	28					253
14 yrs.			1	2	11	21	42	55	70	17	2	1		222
15 yrs.					3	4	20	33	24	49	19			152
16 yrs.						1	10	8	15	24	39	15		112
17 yrs.							2	6	2	14	27	25	4	80
18 yrs.								1	2	4	11	15	3	36
19 yrs.									1	3	2	5	4	15
20 yrs.										1	2	0	1	4
Total..	381	267	270	314	232	252	219	147	146	112	102	61	12	.....
Below..	69	31	23	28	18	24	20	13	32	17	21	16	4	.....
Normal	280	179	175	188	129	131	125	86	94	73	66	40	7	.....
Above.	32	57	72	98	85	97	74	48	20	22	15	5	1	.....

THE PROGRESS OF PUPILS.

According to this plan (see Table VI) the "normal" ages for the first grade are 6 and 7, for the second grade 7 and 8, for the third 8 and 9, and so on. When a pupil's age is less than the "normal" age for his grade he is said to be "below normal," or under age. When his age is greater than the "normal" age for his grade he is said to be "above normal" age.

The table shows that some children in Leavenworth start to school when they are five, some when they are six, others when they are seven, and possibly a few when they are eight. Those who start to school at five are "below normal" age in the first grade. If they are promoted at the end of the year they will be "below normal" age in the second grade, and so on. If a child is six or older when he starts to school, it is possible for him to become "below normal" age only by sometime skipping a grade. On the other hand, a child who enters school before he is eight can become "above normal" age only by failing to be promoted.

This age and progress table for Leavenworth shows 69 pupils "below normal" age in the first grade, 31 in the second grade, 23 in the third

grade, 28 in the fourth grade, and so on. The table does not tell us positively, but it suggests that very few pupils are "below normal" age because of skipping a grade; that the pupils "below normal" age are so primarily because they started to school when five and not because they possess greater capacity for the work of the school than other pupils.

When we consider those "above normal" age, we find 32 in the first grade, 57 in the second, 72 in the third, 98 in the fourth, and the number remains relatively high until the eighth grade. These facts tell us quite conclusively that many of those who are "above normal" age have become so because in some grade they failed to be promoted, and that only a few are "above normal" age because they started to school after they had passed the age of seven. Not all of those who fail of promotion are included in the "above normal" age group. Considering those of "normal" age, we find the ratio of the two ages varies from 127 to 52 in the second grade to 31 to 55 in the eighth. These figures indicate that a number fail of promotion who are still included in the group of "normal age."

This condition is significant for two reasons: First, it is expensive. For the year 1912-'13 the expenses of the Leavenworth Public Schools totaled \$88,918.20, or an average of \$31.85 for each pupil enrolled. In the case of a pupil who failed to be promoted and must do the year's work over, this \$31.85 was largely wasted. If 20 pupils fail of promotion the cost is \$637, or the salary of a teacher paid \$70 a month. And second, these figures indicate, and more careful studies have shown it to be true, that it is the child who is "above normal" age who is most likely to leave school and not take advantage of the educational facilities which the community has provided.

There will always be, or should be, some pupils who fail of promotion or are retarded, because all are not equally capable. But it will be most economical to adjust the work of the school so that the number failing will approximately equal the number who skip a grade. In this way the loss on the one pupil will be balanced by the gain on the other. Such a system would probably also decrease the number of pupils who leave school. The figures indicate that the Leavenworth Public Schools are so adjusted that a number of pupils are retarded and very few are accelerated. The system can be made more efficient by making these groups more nearly equal.

Such a table as the one above is valuable in exhibiting the age and progress of pupils, but it necessarily leaves one in doubt about many questions. For instance, take the pupils in the eighth grade. One does not know how many years the 24 who are 15 years of age have spent in school. In this table they are given as being "normal age," but it is probable that some of them have been retarded at some point of their course. For this reason it would be helpful to supplement this table by another showing the relation between the grade and the number of years spent in school. From such a table it will be possible to determine the amount of acceleration and retardation. Knowledge of these items is essential to efficient management of a school system.

## ENROLLMENT IN THE HIGH SCHOOL.

TABLE VII.

*Per cent of Distribution of High School Enrollment.*

	First year.	Second year.	Third year.	Fourth year.
Leavenworth .....	34.68	26.60	24.23	14.49
Federal .....	41.73	27.08	18.21	12.98
Kansas .....	42.46	26.27	17.38	13.89

The figures in Table VII show that fewer pupils leave High School in Leavenworth before the senior year than in general in the state of Kansas or the United States. However, the drop from 34.68 per cent in the first year to 26.60 per cent in the second year shows that many who enter the High School do not enroll the second year. Also the drop between the third and fourth years is significant. It is quite evident from these figures that in Leavenworth the first and third years of the High School are the critical years.

## RECORDS AND REPORTS.

The system of records and reports is moderately elaborate. Reports are made by teachers quarterly to their principal, and a summary of their reports is made by the principal to the superintendent. These reports include the usual items with reference to attendance, corporal punishment, suspensions, etc. In addition, there are a number of items such as the number of visits by the Board of Education, superintendent, principal, supervisor, and patrons, the work of the truant officer, etc. At the close of the year a complete report is made for the year.

In addition, in the elementary school the following blank forms are used:

1. Notice of supervision assignment. (For buildings and grounds supervision for the week. Made by the principal.)
2. Work needing attention of janitors.
3. Temperature record. (Hourly record from 8:30 to 4:30. The janitors register temperature and the card is filed with the principal at end of week.)
4. A warning notice to parents of children who are not doing satisfactory work.
5. A warning notice to parents of children who have been irregular in attendance. (The rules of the Board of Education provide that more than five half-days' absence in four consecutive weeks without satisfactory excuse will result in suspension.)
6. A suspension notice.
7. "The Teachers' Loose-leaf Plan Book." (Requiring a plan for each day's work.)
8. A blank form for recording the daily program.

By far the most valuable records are those kept of individual pupils. When a child enters school the following card is filled out by the parent:

LEAVENWORTH PUBLIC SCHOOLS.

ENTRANCE CARD.

.....School .....Grade .....Teacher.

1. Name of child.....
2. Date of birth, year.....month.....day.....
3. Place of birth..... Nationality, Father..... Mother.....
4. Name of parent or guardian..... Occupation.....
5. Residence (street and number).....
6. When vaccinated .....
7. By whom vaccinated.....
8. Defective sight, Yes..... No..... Throat, Yes..... No.....
9. Defective hearing, Yes..... No..... Teeth, Yes..... No.....

*Parents receiving this card will please fill out the nine numbered blanks and return to teacher.*

To be used in the primary grades in securing information from parent.

An attendance and scholarship record is kept for each pupil on a loose-leaf form, and in addition there is a progressive record card for each pupil which extends over twelve years. On one side of this card there is space for recording for each quarter of each year the date of entering the room and grade, the number of days he was a member of the room, number of days admitted, days absent, times tardy, days dropped, date of readmittance.

Individual and accumulative records of pupils are among the most important records which can be kept in a school system. As has been pointed out by the National Educational Association Committee on Uniform Records and Reports, the records made by teachers in the schoolroom are the foundation of all statistics concerning pupils; and without reliable statistics concerning pupils, no superintendent can administer a school system in a scientific manner.

The forms used in the Leavenworth Public School collect in a usable form the records made by the teacher in the schoolroom. However, the progressive record card would be more useful if the attendance record were given by years only and the space saved were used for a progressive scholarship record in each school subject.

TABULATIONS RECOMMENDED.

The purpose of collecting and recording data is the use which may be made of them. Only partial use is made of many of the data collected in the Leavenworth Public Schools. For instance, the following tabulations\* are very valuable for the scientific management of a school system:

1. Distribution of withdrawals, by ages and causes.
2. Distribution of attendance according to number of days attended.
3. Graduates, by years in school.
4. Nonpromotions, by grades and causes.
5. Failures, by studies and grades.
6. Distribution of leavings and withdrawals, by ages and grades.

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\* See Report of the Committee on Uniform Records and Reports. Bull. 1912, No. 3, U. S. Bureau of Education.

In a school system the size of Leavenworth's the superintendent can not be expected to make these uses of the records unless he is provided with clerical assistance. In another section of this report it is recommended that the superintendent be provided with a secretary. The tabulation of data under the direction of the superintendent would be one of her important functions.

These tabulations, together with their interpretations by the superintendent, should be printed as a part of his annual report, and should be read by each patron who has an interest in the public schools. These tabulations of statistics will show to the stockholders the efficiency with which their business is being conducted.

## CHAPTER V. BUILDINGS AND MATERIAL EQUIPMENT.

Wattler S. Monroe.

### THE SCHOOL BUILDINGS.

IN CONSIDERING the buildings and material equipment of the Leavenworth Public Schools it is necessary to have clearly in mind, *first*, the past history of the city of Leavenworth and its public schools, and, *second*, the probable future school needs of the community.

The Third Avenue School was built in 1860, the Summer School in 1866, the Morris School in 1867, Oak Street School in 1874, and the Maplewood building has been used as a public school for twenty-five years. Thus over three-fourths of the pupils in the elementary schools attend at buildings which have been built over twenty-five years, and approximately half of the pupils attend at buildings which have stood for nearly half a century.

This means that the majority of the school buildings were constructed when much less was known about school architecture than at present, and also when much less importance was attached to such matters as lighting, heating, seating, hallways, fire-proof construction, playgrounds, etc. In addition, these old buildings have been remodeled from time to time, and in two cases additions have been built. These conditions necessarily make the arrangement of some rooms and their lighting very poor.

The remaining elementary school buildings were constructed about ten years ago, except the Cleveland Park School, which is simply a dwelling house purchased by the Board of Education and adapted to the needs of a one-teacher school. In the newer schools better provisions have been made for the needs of the pupils.

The High School building was completed in 1905 and an addition was built in 1912. The building is poorly planned and represents very poor community foresight. Before the High School can become what it should be to the community of Leavenworth additional space must be provided.

### THE BUILDING NEEDS.

The school census, the enrollment in the elementary schools and the High School, and the total enrollment, are given in Table VIII.

TABLE VIII.

#### *School Census and Enrollment since 1900.*

Year.	Census.	Enrollment.		Total enrollment.
		Elementary schools.	High School.	
1900-'01.....	6,963	2,575	176	2,751
1901-'02.....	6,865	2,417	164	2,581
1902-'03.....	6,646	2,480	174	2,654
1903-'04.....	6,615	2,342	229	2,571
1904-'05.....	6,695	2,282	255	2,537
1905-'06.....	6,746	2,853	325	3,178
1906-'07.....	6,871	2,753	348	3,101
1907-'08.....	7,174	2,650	273	2,923
1908-'09.....	7,080	2,721	283	3,004
1909-'10.....	6,850	2,601	304	2,905
1910-'11.....	6,871	2,981	326	3,307
1911-'12.....	6,859	2,465	377	2,842
1912-'13.....	6,649	2,335	460	2,795

The population of the city has been remarkably constant for twenty years (see page 14), and there is no reason to suppose that there will be any considerable change in the immediate future. The enrollment in the elementary schools has fluctuated from year to year, but the absolute change for the period represented here is slightly negative, and the age distribution of the school census shows the school population to be decreasing. (See page 34.) These facts, coupled with the population data and general observations, indicate that it is not probable that there will be any considerable permanent increase in the elementary-school enrollment in the near future. Since a maximum of approximately 3000 children have been cared for with slightly less than the present equipment of schoolrooms, it is fairly certain that the present schoolrooms will not be crowded in the near future.

On the other hand, the high-school enrollment has steadily increased except for two years, and the indications are that it will continue to increase until an enrollment of 800 or more is attained. Until such an enrollment is attained the Leavenworth High School can not be said to serve the community as it should. In view of the fact that the High School building is already seriously crowded (as the school is at present conducted), provision must be made for nearly double the present enrollment.

Thus the building problem for the city of Leavenworth involves an increase in the number of classrooms only in the case of the High School. The Sumner, Third Avenue, and Morris buildings are each approximately half a century old, and although the need for their replacement is not immediate if they are kept in repair, they can not be expected to stand forever. In the course of a few years some plans should be decided upon which would involve the erection of modern buildings to take their place. Also the Cleveland Park building is simply a small dwelling house in which a partition has been removed so that the building could be used for school purposes. This building is ill adapted to school work and should be replaced as soon as possible with a modern rural school building.

#### ANALYSIS OF BUILDINGS AND MATERIAL EQUIPMENT.

In Table IX an analysis of the buildings and material equipment and their relations to the pupils of the elementary schools is given.

TABLE IX.

	Oak Street.	Morris.	Third Avenue.	Maplewood.	Franklin.	Jefferson.	Summer.	Lincoln.	Wilson.	Cleveland.	Averages of 83 buildings in 28 cities.
Number of pupils enrolled second quarter 1913-14.....	411	380	446	262	124	143	185	127	39	28	.....
Total cubic feet building space usable.....	202,000	355,300	201,330	86,729	75,852	69,875	106,693	123,000	10,305	4,646	.....
Number of cubic feet per pupil.....	491	937	473	331	611	487	576	968	264	165	600
Total cubic feet building space used by teachers and pupils.....	194,000	323,548	180,445	67,233	71,201	57,152	99,236	92,460	9,899	4,473	.....
Number of cubic feet per pupil.....	472	877	404	256	575	398	536	728	253	159	.....
Total outdoor play space, square feet.....	12,450	67,818	15,302	72,877	27,814	22,778	37,000	13,244	34,151	25,427	.....
Number of square feet per pupil.....	30	178	34	278	224	159	200	104	875	908	155
Total indoor play space, square feet.....	.....	600	.....	600	600	712	.....	600	400	348	.....
Number square feet per pupil.....	.....	1.5	.....	2	4.8	4.9	.....	5	10	12.4	6
Total value of play apparatus.....	\$27	\$21	\$21	\$17	\$20	\$20	\$25	\$22	\$20	\$2	.....
Value per pupil.....	\$0.08	\$0.05	\$0.04	\$0.07	\$0.16	\$0.14	\$0.14	\$0.26	\$0.52	\$0.07	\$0.22
Total floor space in recitation rooms.....	8,943	11,777	9,938	3,904	2,896	2,881	4,150	4,682	858	465	.....
Number of square feet per pupil.....	22	30	23.6	15	24	20.5	22.5	38	23	16.3	23
Floor space in corridors.....	1,924	2,338	3,422	1,640	2,521	1,061	2,846	640	158	113.5	.....
Number of square feet per pupil.....	5	6	8	6	21	7.5	15.4	5	4	4	8
Total window areas in recitation rooms.....	1,543	1,350	1,231	819	775	872	456	1,520	237	48.5	.....
Ratio of window area to floor area.....	1:5	1:9	1:12	1:5	1:4	1:3	1:10	1:3	1:3	1:10	1:5
Window area in corridors.....	92	1,932	89	110	237	140	260	236	60	16	.....



Ratio of window area to floor area.....	1:21	1:1.3	1:40	1:6	1:10	1:8	1:10	1:10	1:2.7	1:2	1:7	1:9
Total blackboard area, square feet.....	3,826	3,834	3,870	1,507	904	1,036	344	400	1,392	400	284	.....
Number of square feet per pupil.....	9.3	10	9	5.8	7.5	7	2	10	11	10	10	6.3
Number of drinking fountains.....	13	24	12	12	12	10	12	5	11	5	.....	.....
Number of pupils to each.....	32	16	36	22	10	14	15	8	12	8	.....	62
Number of toilet seats for boys.....	10	8	10	5	6	5	10	6	5	6	3	.....
Number of boys to each seat.....	18	24	19	29	10	16	9	3	13	3	5	20
Number of toilet seats for girls.....	12	16	12	10	6	5	10	6	5	6	3	.....
Number of girls to each seat.....	15	11	19	12	10	16	9	3	13	3	4	15
Width of urinal space in feet.....	7	12	12	14	12	15	4	16	9	16	5	.....
Number of boys in school per foot.....	26	12	12	14	6	4	23	1	6	1	3	6.5

The data for the building space used by teachers and pupils and the total floor space in recitation rooms suggest slightly crowded conditions in the Maplewood, Jefferson and Cleveland buildings; but when the writer visited these buildings the condition did not appear serious except in the case of the Cleveland School. A more adequate building should certainly be provided for this school.

#### PLAYGROUNDS.

The facts relating to facilities for indoor and outdoor play are among the most significant in the entire table. At the two largest schools, Oak Street and Third Avenue, the total outdoor play space per pupil is 30 and 34 square feet, respectively. This is entirely inadequate, and much less than the average for the 83 buildings. The outdoor play space is moderately adequate in the case of the other schools except Lincoln. However, at the Jefferson School the arrangement of the buildings and grounds is such that there is no play space for the girls, and much of the space at the Sumner School is not usable. The latter is partly true of the Morris School. In the case of these schools, and to a less extent the others, the efficiency of the playground could be much increased by grading and providing an appropriate surface. The equipment of the playgrounds is inadequate, being much below the average except in the case of the smaller school. During the present year, 1913-'14, a start has been made in equipping the playgrounds. It is recommended that additional equipment be provided as rapidly as funds can be secured and that additional outdoor play space be obtained for those buildings which show crowded conditions.

The Morris, Third Avenue, Sumner and Cleveland buildings are evidently poorly lighted, but some remodeling of the first two of these buildings is being done this summer which will increase the amount of window space. The corridors of the Oak Street and Third Avenue buildings are not well lighted. This is due to the fact that additions have been built onto the original buildings. A few features found in many of the 83 buildings studied are entirely wanting in Leavenworth; for example, school baths and stationary wash basins for pupils' use.

#### GYMNASIUM.

There is no gymnasium, though the need for one is acute. Our recommendations with respect to a gymnasium will be given in connection with the treatment of physical training. See page 176.

#### AUDITORIUMS.

The Survey Staff is unanimous in approving the present plans of the Board of Education for providing auditoriums in the Third Avenue, Oak Street and Morris buildings. See page 65 for recommendations for using auditoriums.

Detailed recommendations as to the remodeling of the present buildings or the construction of new buildings are not given because our knowledge and standards of school architecture are increasing so rapidly at the present time. Extensive remodeling of the present buildings would not be good business. When the city of Leavenworth is ready to replace the present old buildings by modern structures a competent architect should be secured.

## SANITATION.

The High School, Morris, Third Avenue and Oak Street buildings have sewer connections. The other buildings have none, although three of them—Sumner, Lincoln and Jefferson—are sufficiently near the sewer. Toilet paper is furnished only at those buildings which have sewer connections. The three buildings, Sumner, Lincoln and Jefferson, should be connected with the sewer at once, and as soon as sewer connections are available the other buildings should be connected. The need is particularly pressing at the Lincoln building because of the small playground and the thickly settled district in which it is located. The Leavenworth Public Schools can render valuable service to the community by setting standards of sanitary cleanliness.

## SEATING.

The dimensions of many of the classrooms and the position of the windows make impossible the placing of seats according to present-day standards. In a number of the classrooms the placing of the seats and the lighting are good. In a few these features are very poor. In all, except a few cases, the best is being made of an unfortunate situation.

Many of the seats have been inherited from the same generation as the buildings. They are nonadjustable and unsanitary. The superintendent stated in a report for 1912 that within the previous year "700 old nonadjustable and unsanitary seats" had been replaced by "700 adjustable and sanitary seats." This is a commendable improvement. In some cases even yet the seats are entirely unsuited to the pupils who must use them. In one schoolroom blocks are being used to make possible a resting place for the feet of some children. A room in the Jefferson School was visited in which scarcely a child could touch the floor with his feet when sitting erect. Such a condition should not be permitted to continue to exist. In the rooms which are equipped with adjustable seats, the seats appeared to be properly adjusted.

## BLACKBOARDS.

The table on page 44 shows that adequate blackboard space is provided in most of the buildings in Leavenworth. The High School building is equipped with slate blackboards. In the other buildings, except Cleveland Park, the blackboards have been made by applying a liquid slate preparation to the plaster. In some of the buildings a fresh coat is applied twice a year, in others only once a year.

At best, this type of board is unsatisfactory, and in many of the classrooms the boards are very poor because of an imperfect plaster surface. The classrooms should be equipped with slate boards and sanitary chalk ledges, but in view of the fact that the buildings are old and the present boards are usable, there are other more urgent demands for improvements. Perhaps an exception should be made in the case of the rooms used for the departmental teaching of arithmetic. In any case, a fresh coat of the liquid slate should be applied oftener than at present.

## FIREPROOF CONSTRUCTION.

The buildings are not fireproof. This is to be expected when the age of the buildings is considered. Fire escapes have been provided at all buildings of two stories or more, and the children were found well trained in fire drills with the exception of one school. These conditions minimize the danger from fire, but it could be further decreased by installing fireproof stairways in the three large buildings.

## CHAPTER VI.

## EDUCATIONAL EXPENDITURES.

Walter S. Monroe.

## THE SCHOOL SYSTEM AS A BUSINESS ENTERPRISE.

JUDGED merely in dollars and cents, the Leavenworth Public Schools are one of the large business enterprises of the community. They represent an investment of approximately a quarter of a million and carry a yearly pay roll of over \$65,000 and a yearly budget of approximately \$125,000. It is thus worth while to inquire into the nature of this investment and compare the expenditures with those of similar communities.

## HOW LEAVENWORTH SUPPORTS HER SCHOOLS.

There are in Kansas ten cities of the first class, *i. e.*, which have a population of 15,000 or over. In Table X we give some facts for these cities, taken from the report of the state superintendent for 1912.

TABLE X.

	School census.	Enrollment.	Tax levy.	Total valuation.	Possible revenue from direct taxation.	Possible revenue per pupil enrolled.	Value of school property per pupil.
Atchison.....	3,486	2,002	4.2	\$16,042,373	\$67,377.66	\$33.66	\$125.00
Coffeyville.....	3,676	3,406	7.0	11,541,115	80,787.70	23.72	53.00
Fort Scott.....	4,273	2,625	5.8	8,956,512	51,947.70	19.79	45.00
Hutchinson.....	4,240	3,491	4.3	20,644,512	88,771.35	25.43	143.00
Kansas City.....	25,314	14,593	5.5	92,919,110	511,055.05	35.02	95.00
Leavenworth.....	6,649	2,842	4.0	17,297,281	69,188.80	24.34	81.00
Parsons.....	3,190	2,529	5.6	11,593,311	64,922.48	25.67	158.00
Pittsburg.....	5,008	3,211	6.0	11,440,505	68,642.40	21.39	29.00
Topeka.....	11,641	7,936	4.7	50,950,000	239,475.00	30.17	109.00
Wichita.....	12,545	9,443	7.0	64,133,116	448,931.70	47.54	103.00
Average.....			5.4				96.00

These figures reveal the following facts: Leavenworth stands *seventh* in the number of pupils enrolled in the public schools, *tenth* in rate of tax levy, *fifth* in taxable valuation, *seventh* in revenue from direct taxation per pupil enrolled, and *seventh* in amount invested in school property per pupil enrolled. The average investment in school property per pupil enrolled in these cities is \$96. Leavenworth has \$81 invested for each pupil enrolled.

This means that, at the time these figures were taken, 1912, Leavenworth had the lowest tax levy for school purposes of the first-class cities of Kansas, and by so doing was below the average in providing buildings and material equipment and in its support of its public schools.

It is an indication of increasing community interest in the Leavenworth Public Schools to find that since these data were collected the tax levy has been raised to 5½ mills for current expenses and one-half mill for interest and bonds. This is within one-half mill of the limit set by law for the maintenance of public schools in cities of the first class. The possible revenue from direct taxation is now approximately \$38 for each pupil enrolled. Comparative data are not at hand for the other cities, but it is fairly certain that Leavenworth has increased its comparative standing.

Although Leavenworth has not been supporting her schools as generously as most of the other first-class cities of Kansas, the tax rate in Leavenworth is unusually high. The citizens of Leavenworth pay the following taxes on each one hundred dollars valuation:

School .....	\$0.60
City .....	.89
County .....	.64
State .....	.12
<b>Total .....</b>	<b>\$2.25</b>

This means that out of each dollar paid in taxes 27 cents goes to the schools, 39 cents to the city, 29 cents to the county, and 5 cents to the state.

In Table XI the bonded indebtedness is given for the last twenty years.

TABLE XI.

*Bonded Indebtedness of Leavenworth for School Purposes.*

Remaining July 1, 1894.....	\$95,374.13	
1895.....	89,345.88	
1896.....	83,120.26	
1897.....	75,074.50	
1898.....	68,734.05	
1899.....	62,393.61	
1900.....	59,223.39	
1901.....	97,155.80	Issue \$44,000
1902.....	89,945.48	
1903.....	79,291.66	
1904.....	129,437.76	Issue \$60,000
1905.....	119,310.16	
1906.....	103,534.01	
1907.....	93,010.49	
1911.....	69,367.01	
1912.....	65,307.78	
1913.....	60,307.78	

These figures show several things:

1. Bonds to the amount of only \$104,000 have been voted within the last twenty years. The money from these bonds was put into buildings and equipment, and, with the exception of the \$20,000 addition to the High School building, represents the total amount put into the permanent investment within that period. Thus only about half of the present school plant represents investments made within the last twenty years.

2. Within the period considered, the bonded indebtedness has never been less than that at the present year except for the single year 1900;

and at the end of the present fiscal year the bonded indebtedness of Leavenworth for school purposes will have reached the lowest mark within over twenty years.

3. With the present bond levy of one-half of one mill the present bonded indebtedness will be paid in less than twelve years.

4. As compared with other Kansas cities, Leavenworth has not been generous in providing buildings and material equipment for her schools. In 1910 Hutchinson, with a taxable valuation only slightly greater than the present taxable valuation of Leavenworth, was carrying a bonded indebtedness of \$147,000. The taxable valuation of Kansas City, Kan., in 1910 was \$71,341,895, or only about four times the present valuation of Leavenworth. The bonded indebtedness was \$815,000, or thirteen times the present indebtedness of Leavenworth.

5. Leavenworth's position of seventh among the ten first-class cities, as judged with reference to value of buildings and equipment per pupil enrolled, is due to the age of the city and its static population. If Leavenworth were as new and as rapidly growing as many other Kansas cities, and if no more had been invested in public schools than has been, Leavenworth would doubtless stand at the bottom of the list.

Thus if Leavenworth should vote bonds to the extent of \$150,000 or more within the next few years, the city would only be doing what other Kansas towns have already done and others are now doing.

#### ANALYSIS OF SALARY EXPENDITURES.

The large item of school expenditures is salaries. In Leavenworth it has been about three-fourths of the total regular expense, and in the future should bear even a greater ratio to the total. For this reason, and for others which will be made clear later, it is important to inquire what the community of Leavenworth is buying with this money.

No teacher in the seventh and eighth grades receives less than \$720, and most of the teachers in these grades receive the maximum salary, \$810. From these upper grades the salaries decrease with the grade until the first and second grades. The lowest salaries are paid in the second, third and fourth grades.

The average salary for the elementary teachers of Leavenworth, including principals, is \$683. The average of 1102 elementary teachers in 30 cities near Chicago is \$709.

TABLE XII.

*The Distribution of the Teachers According to Salaries.*

Number of elementary-school* teachers, with salaries.	Number of high-school teachers,† with salaries.		
Below \$350 .....	0	Below \$500 .....	0
\$350 to \$400 .....	2	\$500 to \$600 .....	1
400 to 450 .....	6	600 to 700 .....	0
450 to 500 .....	4	700 to 800 .....	2
500 to 550 .....	5	800 to 900 .....	2
550 to 600 .....	8	900 to 1,000 .....	7
600 to 650 .....	2	1,000 to 1,100 .....	8
650 to 700 .....	3	1,100 to 1,200 .....	1
700 to 750 .....	6	1,200 to 1,300 .....	0
750 to 800 .....	0	1,300 to 1,400 .....	0
800 to 850 .....	23	1,400 to 1,500 .....	0

\* Supervisors of music and arts and crafts included.

† Includes four teachers who give half time to the elementary school.

Number of elementary-school* teachers, with salaries.		Number of high-school teachers,† with salaries.	
\$850 to \$900.....	0	\$1,500 to \$1,600.....	0
900 to 1,000.....	4	1,600 to 1,700.....	0
1,000 to 1,050.....	0	1,700 to 1,800.....	0
1,050 to 1,100.....	1	1,800 to 1,900.....	0
1,100 to 1,150.....	1	1,900 to 2,000.....	0
1,150 to 1,200.....	0	2,000 and above.....	1
1,200 and above.....	3		

If we exclude the principals and supervisors, the median salary of the teachers in the elementary school is between \$650 and \$700. This group includes only women. For a miscellaneous group of women teachers made up very largely of elementary school teachers, Dr. L. D. Coffman‡ has shown the median salary to be from \$372 for one year of experience up to \$629 for twenty-five years' experience. In comparison with these data, the salaries for teachers in the Leavenworth elementary school are superior.

The median salary of principals of north central high schools in cities from 15,001 to 50,000 population is given as \$1800. The median maximum salary of teachers is \$1500 and the median minimum salary of teachers is \$500.§ The average salary is not given, but we may conclude that Leavenworth compares favorably with other cities of its class in point of salaries paid to high-school teachers.

TABLE XIII.

*Cost of Instruction in High School. Leavenworth Compared with the Median for 24 Cities.*

SUBJECT.	Average size of class.		Number of hours per teacher.		Number of students per teacher.		Teachers** by subject.		Number of student hours for \$1.00.		Cost per student hour.	
	M	L	M	L	M	L	M	L	M	L	M	L
English.....	21.2	24.3	23.3	20.0	139	146	\$405	\$457	22.2	19.9	\$0.044	\$0.052
Mathematics.....	21.0	23.3	23.3	20.0	138	140	475	474	19.0	17.6	.053	.056
History.....	20.6	25.6	23.0	17.2	127	133	465	465	17.0	17.0	.052	.058
Science.....	20.2	24.3	22.5	20.0	109	85	480	477	17.9	18.3	.060	.054
Modern Latin.....	17.3	21.3	23.2	20.0	128	113	427	440	16.2	15.4	.061	.064
Latin.....	17.3	19.1	23.3	20.0	113	115	440	520	15.4	13.2	.064	.075
Shop Work.....	14.5	12.3	23.1	31.0	77	69	570	378	13.0	18.2	.068	.054
H. Arts.....	16.5	22.5	24.3	29.2	98	198	388	413	20.7	28.6	.048	.035
Commercial.....	18.6	23.1	24.1	20.0	130	139	489	500	16.2	16.6	.064	.050
Normal Training.....	15.0	20.5	23.6	16.6	72	103	503	427	10.8	14.3	.092	.069

An examination of the facts given in Table XIII shows that Leavenworth does not stand conspicuously above or below the median of this group of cities.

\* Supervisors of music and arts and crafts included.

† Includes four teachers who give half time to the elementary school.

‡ L. D. Coffman. The Social Composition of the Teaching Population.

§ Ibid., p. 111.

\*\*Salary per semester.

## CHAPTER VII.

## THE TEACHING STAFF.

Walter S. Monroe.

## THE TRAINING OF TEACHERS IN THE ELEMENTARY SCHOOL.

THE distribution of the teachers in the elementary school according to total years of training beyond the elementary school is given below:

Number of years beyond elementary school.	Number of teachers.	Number of years beyond elementary school.	Number of teachers.
1.....	0	7.....	5
2.....	1	8.....	2
3.....	4	9.....	2
4.....	11	10.....	0
5.....	18	11.....	1
6.....	20		

Nearly half of the teachers now employed in the elementary school have six or more years of academic and professional training beyond the elementary school. The average number of years of training beyond the elementary school is 5.4 for the teachers in the elementary schools of Leavenworth, and the average for 1102 teachers is 5.2 years.\* This shows that in the past, with even a lower minimum standard than at present, Leavenworth has secured many teachers with college training or that the teachers have attended summer schools after their appointments. Thus the showing of the teachers, when judged by their total years of training beyond the elementary school, is relatively good.

In order to maintain this standing it will be necessary for the academic and professional standards for teachers in the elementary school to be strengthened in the near future. This can be done for those who enter from the normal training class of the Leavenworth High School by adding a year to that course. Such an addition is feasible and would make it possible for students to take adequate courses in domestic science and manual training. If music and drawing are introduced in the High School, as the Survey Staff recommends, these courses would be valuable for those preparing to teach. There would be opportunity for some additional study in the field of education. An alternative plan would be to require one or more years of work in a normal school. This plan possesses the advantage of bringing the prospective teachers in contact with an institution outside of their own community and with a larger number of teachers.

## LENGTH OF SERVICE.

In Table XIV the number of years in the Leavenworth Public Schools is given for the teachers of the elementary school, omitting the special supervisors and the teachers of the industrial work.

\* These and other comparative data which are used in this chapter were furnished by Dr. J. F. Bobbitt unless other acknowledgment is made. In all cases the data are for the year 1913-'14. The elementary teachers are all from school systems in cities averaging about the size of Leavenworth.



TABLE XIV.

*Length of Service of Teachers in Elementary School.*

Years in system.	Number of teachers.	Years in system.	Number of teachers.
0.....	2	17.....	0
1.....	8	18.....	2
2.....	4	19.....	1
3.....	7	20.....	1
4.....	5	21.....	0
5.....	4	22.....	2
6.....	2	23.....	2
7.....	4	24.....	0
8.....	2	25.....	1
9.....	3	26.....	1
10.....	2	27.....	0
11.....	1	28.....	1
12.....	2	29.....	0
13.....	3	30.....	1
14.....	1	31.....	0
15.....	0	32.....	0
16.....	1	33.....	1

Half of the teachers in the elementary school have been in the system seven years or more and the average term of service is 9.2 years. The average for 1102 elementary teachers is 6.9 years. This permanency of service offers the opportunity for improvement and development which would not be possible if the teachers remained in service only two or three years, but this opportunity carries with it the responsibility for providing facilities for the improvement of teachers in service.

IMPROVEMENT OF TEACHERS IN SERVICE.

Out of 62 teachers in the elementary schools only 14 have attended summer school within the last three years. Seven of this number attended six weeks or less, and only four teachers have attended 16 or more weeks. Of these 14 teachers who have attended summer school within the last three years, three have come into the system within the present year, and the terms of service of the others are as follows:

Years in system.	Number of teachers.
1.....	2
2.....	2
3.....	2
4.....	1
7.....	3
9.....	1

Among those attending summer school there is only one principal, and that one attended only six weeks.

In the High School ten teachers out of eighteen have attended summer school within the last three years. Only four teachers of this group (which includes the supervisors of music and arts and crafts) have been in the system more than three years.

Only one teacher reported correspondence work.

Similar data from other cities are not at hand for comparison, but in the absence of such data the writer believes that the teachers in the

elementary schools should attend summer school more. These data were submitted to several educators, and they all concurred in this opinion. Half of the teachers have been in the system seven years or more, and if we may assume that the percentage of attendance upon summer school has been constant for the last seven years, probably less than one-third of these teachers have attended school within that time. When we consider the development in educational theory and practice which has taken place within that time, the importance of an occasional term in school is easily recognized.

The responsibility for the present condition probably should not be placed entirely upon the teachers. Without adequate salaries teachers can not be expected to attend summer schools, but now that the community is paying better salaries, the community may reasonably expect greater efforts toward self-improvement on the part of teachers.

#### TIME GIVEN TO SCHOOL WORK BY TEACHERS.

The total school time, including both the time spent at school and the time away from school spent in preparation for school work, according to the teachers' reports, varies from 1800 to 3500 minutes per week, or from 30 hours to nearly 60 hours per week. A summary of the reports is given in Table XV.

TABLE XV.

#### *Total Time Given to School Work by Teachers, Both Elementary and Secondary.*

Minutes per week.	Number of teachers.	Minutes per week.	Number of teachers.
1800.....	1	2700.....	4
1900.....	0	2800.....	3
2000.....	0	2900.....	4
2100.....	5	3000.....	6
2200.....	5	3100.....	1
2300.....	2	3200.....	2
2400.....	5	3300.....	2
2500.....	1	3400.....	3
2600.....	4	3500.....	2

The most significant fact in this table is the great range of variation in the total school time. The class time is approximately the same for all teachers. Hence the difference in the total time is due primarily to the difference in the amount of time given to school work outside of the regular school hours.

The Survey Staff did not inquire into how the total school time was spent, but a few instances were noted of teachers spending time preparing material for the pupils when it would have been much better if the pupils had begun with the raw material. This suggests that perhaps the teachers who are spending large amounts of time on school work are not employing it as wisely as they might.

The system of records and reports used in Leavenworth Public Schools is moderately elaborate, and a few teachers mentioned to the writer that the keeping of the records made heavy demands upon their time.

Reports are now made quarterly, and in the elementary school they should not be less frequent. Adequate records are essential, but teachers should not be overburdened in this respect. The writer is not able to say whether they are at present or not, but suggests the question of how much time is required for the records and reports might be investigated. The disposition of a teacher's time is just as important as the amount of time given to school work.

## CHAPTER VIII.

## THE COURSE OF STUDY AND ITS ADMINISTRATION.

Walter S. Monroe, assisted by the Staff.

THE course of study of the public schools of any community is an outline of the education which the public schools give to the boys and girls of the community. This outline specifies how the boys and girls are expected to spend their time in school. So much time is given to reading, to grammar, to arithmetic, to history, to algebra, to manual work, to physics, etc. The outline also sets up standards of attainment in the various subjects.

In the present chapter we shall discuss the general principles of education and the educational needs of Leavenworth which must be considered in the making of an efficient course of study. In the following chapters the details of the school subjects will be considered.

## THE BASIS FOR MAKING A COURSE OF STUDY.

What subjects should make up the course of study for the public schools depends upon what the public schools are expected to do for that community. The men and women of Leavenworth who are now carrying on the adult activities of the community will in time be replaced by another generation. If those who are now children are to undertake these activities and perform them with the highest degree of efficiency they must receive preparation. For discussing this preparation, we have adopted a classification of the activities of adults.

1. *Vocational activities, or those activities involved in providing the necessities of life.* Before those who are now boys and girls in the schools take their place in the occupations of the community, three types of preparation are required: First, they must have some concrete, practical experience in their respective occupations. Second, they must be acquainted with such technical and scientific knowledge as is needed for their occupations. Third, they must possess a body of general information.

A few illustrations will make this clear. Take the young man who becomes a clerk in a grocery store. Before he can render service to his employer which justifies a living wage, he must have some practice in wrapping up orders, making out sales slips, meeting customers, arranging goods, etc. In addition he must possess some technical knowledge of arithmetic, of qualities of foodstuffs, of the art of salesmanship, etc. And he will be still more valuable to his employer and will find more interest in his work if he is acquainted with the places which produce the foodstuffs he handles daily, with the problems of transportation, distribution, etc. Again, the girl who enters an office as a stenographer must have had practice in dictation and typewriting. In addition she must possess certain technical knowledge as to business forms. Her efficiency will be of a very low type unless she also possesses a considerable fund of general information.

2. *Avocational activities, or occupations of one's leisure time.* Our plan of living is providing more and more leisure time. This is not a mere accident, for leisure time is necessary to the life and well-being of every individual. But simply to have leisure time is not enough; it must be spent in wholesome activities. There is a wide range of such activities—outdoor sports and games; the propagation and cultivation of plants, particularly flowers; reading and study; producing and listening to music; enjoyment of art in its several forms; conversation; special studies in science (usually called a hobby); travel, etc. Two types of preparation are required for these activities. First, people must be caused to prefer them as occupations of their leisure time. Second, they must be trained to participate in them with at least a moderate degree of skill; for if skill is absent the desire will not continue to exist, and the cultivation of skill will tend to increase the desire.

3. *Civic and moral activities, or those activities which have to do with one's contact with his fellow men.* No one lives entirely apart from other members of the social group. Even on his own property the law does not allow him to do anything which will harm his neighbor. If he has a contagious disease he is placed under quarantine. If a property owner carelessly fails to keep his property painted and in repair the law does not interfere, but his neighbors may subject him to social ostracism; and they have a right to do so, because on account of his carelessness and indifference the civic quality of the neighborhood is lowered, and thus their enjoyment of living in the community as well as the value of their property is lessened.

There are many occasions when a person's conduct should be governed by consideration of the rights of others. Our contacts with other people are many. In such matters as health and sanitation and community pride they extend beyond our own family and social group to the entire community. In many instances they extend beyond the community to the state and the nation. A delicate personal responsiveness to the rights of others and to the social effect of our conduct is necessary and can be obtained only by preparation.

4. *Activities relating to personal health.* To keep physically well requires attention. One must have fresh air, sunlight, be clean, eat properly prepared and appropriate food, be clothed properly, and take exercise and recreation. Men and women who are not healthy are not a community asset. If they are so ill that they can not pursue their vocations, the community, some organization or some individual must support them. Even if not incapacitated, they are less efficient than they would be if they were in proper physical condition. Keeping one's self in good physical condition depends largely upon appreciation of the need, knowledge of the means, and habit of using the means. Training in childhood which will result in these three things is valuable preparation for adult life.

5. *Activities of social intercourse.* Society has adopted conventional rules for the guidance of individuals in the activities of social intercourse. These activities include letter-writing, conversation, meeting

strangers, entertaining in one's home, formal receptions, and public meetings. Conformance with the recognized standards in these matters depends upon, first, a knowledge of what are the accepted standards, and second, sufficient practice.

6. *Activities relating to home-building and parenthood.* The activities which are connected with a home are perhaps the most important responsibilities which come to a man or a woman. The social and economic changes of the last quarter of a century have made home-making and parenthood much more complex than a generation ago, and in addition have raised the standards. Therefore increased preparation for these activities is required and is justified by their importance.

7. *Religious activities.* Since the preparation for them is given by the church and the home, they will not be discussed here.

#### EDUCATIONAL AGENCIES.

Now that we have indicated the scope of the preparation which must be given to the boys and girls of Leavenworth before they can be expected to engage with efficiency in the activities which will be demanded of them—vocational, avocational, civic and moral, health, social, home-building and parenthood, and religious—it is appropriate that we inquire what agencies are available for giving this preparation. These are: the home; the vocation; the church; the social groups to which each individual belongs; institutions such as newspapers, theaters, Y. M. C. A., libraries, etc.; and finally, the public schools.

There was a time even in Leavenworth when the home, the vocation and the social group provided most of the preparation. But since that time in the early history of the community, two changes have taken place. The home, the vocation, the social group have decreased the preparation which they give the child. At the same time the scope of adult activities and the preparation required have increased. Thus a wide gap has been created between the supply and the demand. The Leavenworth Public Schools may well assume the responsibility of providing the needed preparation which is not being provided by the other institutions of the community.

#### TIME ALLOTMENT.

Table XVI gives in the first column the average per cent of time given in fifty cities to the subjects in the elementary school, and the second column the per cent of time given to these subjects in Leavenworth. A comparison of the two columns shows that in Leavenworth a smaller per cent of the school time is given to opening exercises, reading, language, history and civics, and recess (supervised play). A larger per cent of the school time is given to spelling, penmanship, arithmetic, drawing, and music. In Table XVII the distribution of the teaching time in the High School is given.

TABLE XVI.

Table showing distribution of time and salary, cost of instruction in the elementary school, not including special supervisors except in domestic science and manual training.

(The average for 50 cities is taken from the Fourteenth Year Book of the National Society for the Study of Education.)

SUBJECT.	Per cent of time.		Cost of instruction.				
	Average for 50 cities.	Leavenworth.	Total.	Per cent.	Third Avenue.	Oak Street.	Morris.
Opening exercises.....	3.5	1.8	\$803	1.8	1.6	2.0	1.2
Reading.....	17.0	16.0	6,884	15.2	15.7	16.0	14.3
Language.....	11.0	10.3	4,476	9.9	11.0	14.8	11.8
Spelling.....	5.9	7.9	3,532	7.8	9.3	6.5	6.8
Penmanship.....	4.7	5.8	2,622	5.8	5.6	5.8	5.3
Arithmetic.....	12.7	15.4	7,290	16.0	17.3	15.4	18.0
Geography.....	6.1	6.6	3,014	6.7	7.9	7.8	7.0
History* and civics.....	4.6	1.7	922	2.0	3.6	3.3	3.1
Physiology and hygiene.....	} 3.6 {	2.2	990	2.2	2.0	2.5	2.8
Nature study.....		2.2	886	2.0	1.5	0.9	1.0
Drawing.....	5.3	7.8	3,600	8.0	6.6	7.7	11.7
Music.....	4.7	6.5	3,048	6.7	6.7	3.3	8.8
Manual training.....	4.1	3.1	1,445	3.2	2.1	2.0	1.7
Physical training.....	4.4	3.7	1,629	3.6	2.8	3.0	4.3
Recess (supervised play).....	7.3	5.7	2,368	5.2	6.9	9.0	2.2
Domestic science.....		3.2	1,700	3.8			
Miscellaneous.....	5.1						

TABLE XVII.

Table Showing Distribution of Teaching Time in the High School.

SUBJECT.	Median for 24 cities.	Leavenworth High School.
English.....	17.2	16.5
Mathematics.....	14.0	16.5
History.....	10.2	6.6
Science.....	13.7	13.2
Modern languages.....	8.8	6.6
Latin.....	8.8	9.9
Household occupations.....	6.9	8.8
Shop work.....	7.5	11.0
Commercial.....	12.7	6.6
Normal training.....	4.4	4.4

\*No note taken of historical reading in the classes in literature and reading.

## THE VOCATIONAL NEEDS OF LEAVENWORTH.

The occupations of Leavenworth, given on page 20, have been classified by Superintendent Moore, as given in Table XVIII:

TABLE XVIII.

*Classification of the Occupations of Leavenworth.*

I. PROFESSIONAL.—Those who require as a basis for their college training such courses as are offered by the standard traditional High School:		
Undertakers .....	11	
Pharmacists .....	15	
Civil engineers .....	3	
Doctors, dentists, specialists, lawyers, etc.....	83	
Teachers .....	138	
Ministers .....	33	
Draftsmen and architects.....	3	
Total .....	286	
Per cent .....	2.9	
II. ENTREPRENEURS.—Managers of extensive business who require at least a general high-school course as the basis of a wide experience or a technical college training:		
Contractors (a) .....	5	
Managers (c) .....	20	
Dealers (a) .....	17	
Manufacturers .....	45	
Total .....	87	
Per cent .....	0.9	
III. COMMERCIAL SKILL.—Those who require a commercial course of two, three or four years, together with general training such as is offered in the Leavenworth High School:		
Accountants .....	254	
Salesmen and agents.....	175	
Railroad employees (a).....	41	
Stenographers and reporters.....	93	
Contractors (b) .....	54	
Managers (a) .....	249	
Clerks (a) and (b).....	664	
Dealers (a) and (b).....	328	
Liverymen .....	8	
Hotelkeepers (a) .....	7	
Real estate and insurance.....	57	
Publishers .....	15	
Restauranteurs .....	18	
Total .....	1,963	
Per cent .....	20	
IV. INDUSTRIAL SKILL.—Those who require at least an elementary education as it is offered in the departmental schools of Leavenworth, together with the elements of industrial training. In Leavenworth these workers seem to divide into two groups, as follows:		
1. Industries for which the Leavenworth Public Schools provide or partially provide industrial training:		
Machine operators (b).....	184	
Woodworkers .....	475	
Milliners .....	15	
Seamstresses .....	185	
Cooks (a) and (b).....	47	
Total .....	926	
Per cent .....	9.4	
2. Industries for which the Leavenworth Public Schools offer no industrial training:		
Chauffeurs .....	9	
Bookbinders .....	8	
Machine operators (a).....	103	
Painters and decorators.....	120	
Photographers .....	12	
Iron workers .....	125	
Silver- and goldsmiths.....	10	
Cement workers .....	93	
Plasterers .....	92	
Stone cutters .....	10	
Bakers .....	12	



2. Industries for which the Leavenworth Public Schools offer no industrial training:

Electricians .....	27	
Engineers and firemen.....	134	
Shoemakers .....	31	
Plumbers and fitters.....	52	
Nurses .....	44	
Barbers .....	76	
Farmers, gardeners, etc.....	139	
Tailors .....	53	
Butchers and meat cutters.....	34	
Printers .....	44	
Musicians .....	22	
Managers (b) .....	28	
Total .....	1,278	
Per cent .....	13	

V. SLIGHT SKILL.—Those who require at least an elementary education of a general nature, consisting of practical courses in (1) applied arithmetic, (2) applied elementary English, (3) elementary science, both physical and biological, (4) manual and industrial arts, (5) arts and crafts, both practical and appreciative, (6) elementary social science, including history and citizenship:

Telephone operators .....	91	
Railroad employees .....	164	
Soldiers .....	135	
Laundresses .....	88	
Confectioners and hucksters.....	34	
Domestics .....	162	
Messengers .....	22	
Liverymen (b) .....	92	
Rooming-house keepers .....	46	
Housekeepers (hired) .....	10	
Mail carriers .....	26	
Laborers .....	1,833	
Federal guards .....	93	
Miners .....	623	
Total .....	3,419	
Per cent .....	35	

VI. MISCELLANEOUS:

Unclassified .....	853	
Apprentices .....	444	
Widows .....	945	
Students .....	24	
Total .....	1,866	
Per cent .....	19	

GRAND TOTAL ..... 9,825

PREPARATION FOR VOCATIONAL ACTIVITIES.

Superintendent Moore has made the following observations concerning the facts of Table XVIII:

The above investigation shows that the Leavenworth Public Schools are prepared fully to accommodate only two of the great divisions, namely:

	Number.	Per cent.
The professional division .....	286	2.9
The entrepreneurs .....	87	.9

With some enlargements, both in plant and faculty, our commercial department in the High School would become an adequate preparation for the—

Commercial division .....	1,963	20
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Our courses in manual training, domestic arts and sciences, and arts and crafts provide perhaps about 80 per cent of an adequate preparation for—

Division (1) industrial skill.....	926	9.4
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With our new arrangement of the department buildings, our elementary schools will adequately provide, after some reorganization of subject matter and the addition of some apparatus, for a basis for all classes and perhaps a sufficient school education for—

The slightly skilled division.....	3,419	35
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There remains a group of the unclassified, the widows, the students, and a number listed in the directory as apprentices, making in all—

A miscellaneous group.....	1,866	19
Excepting a basal elementary general training, our schools do not provide training for—		
Division (2) industrial division.....	1,278	13

This appears to be a just general estimate of the preparation for vocational activities which Leavenworth is providing at present. The school can not conveniently supply concrete, practical experience in such vocations as manufacturing stoves and ice, paperhanging, bricklaying, etc., but the school can economically supply the technical and general preparation even for these vocations. In the case of other vocations, such as bookkeeping, stenography, teaching, carpentering (simple phases), cabinetmaking, dressmaking, gardening, etc., the school can easily provide much of the necessary practical preparation as well as the technical and general preparation. Much the same thing is true for the other classes of activities. Some of the preparation can be given best by other institutions, but for the giving of some the public school is the most suitable agency.

In the elementary school courses in sewing are now given for girls in the fifth, sixth and seventh grades, and cooking in the eighth grade, one period of eighty minutes per week being devoted to this work. During the same period the boys of the seventh and eighth grades have bench work, and the fifth and sixth grades have preparatory courses in cardboard and wood. The provision which Leavenworth has made for these subjects probably compares favorably with that in other cities, but the Survey Staff believe some extensions of this work could be made with profit. For example, the boys in the sixth, seventh and eighth grades might be encouraged to bring broken chairs and tables and be taught to mend them. They should be taught to mend fences and hang gates, build chicken coops and small sheds, reglaze broken windows, make and hang screen doors, and to do the numerous other odd jobs which call for an intelligent use of tools.

A similar plan could be carried out for the girls, providing instruction in plain cooking, sewing, and housekeeping, which would not only lead to more efficient home-keeping, but also help those who wish to go into domestic service. The sewing courses might lead in due time to thorough preparation in millinery, dressmaking, and tailoring, the latter open to boys as well as girls. In the Morris and Lincoln schools there is now available building space for this work, and it would be particularly valuable to the children attending those schools.

#### SCHOOL GARDENS.

Preparation for gardening, which is an important occupation in Leavenworth, will require school gardens. The work in nature study does not now extend beyond the third grade.

School gardens are no longer an experiment, and besides providing

vocational preparation, they are very valuable in another way. The Commissioner of Education says in his recent report (1913) :

"There is need of suitable educative, purposeful, productive occupation for millions of school children in our cities, towns, manufacturing villages and suburban districts who now have not proper employment out of school hours. . . . Home gardening done by the children under the direction of the schools seems to offer what is needed. In all of the manufacturing villages, suburban communities and smaller towns, and in the outskirts of the larger towns and cities, there is much valuable land in the back yards, vacant lots and elsewhere which might be used for this purpose. In every school in a community of this kind there should be at least one teacher who knows gardening both theoretically and practically. This teacher, who should, of course, be employed twelve months in the year, should teach the elementary sciences in the schools during school hours, and should out of school hours direct the home gardening of the children between the ages of 6 or 7 and 14 or 15."

The Survey Staff believes that there is need in Leavenworth for just this type of work.

Geography and history contribute to the general information which is needed for vocational activities. In comparison with the average for other cities, the provision for history appears inadequate. A course in elementary science would furnish valuable technical information. This should include more than the school gardens which were mentioned above. Such a course is being planned for next year.

But it must be remembered that the function of the public school includes much more than preparation for vocational activities. If it is to fulfill its total function it must provide preparation for the other classes of activities which we have enumerated.

#### PREPARATION FOR AVOCATIONAL ACTIVITIES.

Preparation for avocational activities is provided for in part by reading, music, drawing, and supervised plays and games. Other activities of the school, such as the literary, dramatic and social, also contribute. The extension of the course in nature study which has been recommended will strengthen the preparation for this type of activities. It can be still further strengthened by more adequate provision for plays and games and their supervision, especially supervision of playgrounds during vacation. For other recommendations see the reports on literature, drawing and physical training.

#### PREPARATION FOR CIVIC AND MORAL ACTIVITIES.

The Survey Staff believes that the most efficient preparation for moral activities can be given incidentally. Morals and manners are listed in the printed course of study as an incidental minor for all grades, but the teachers reported no time given to the subject. This is as it should be. There are three sources of moral training: first, the activities of the school; second, the methods of teaching; and third, the course of study.

The effectiveness of this incidental teaching in Leavenworth was clearly evident. The pupils were exceptionally courteous to members of the Survey Staff as well as to their teachers and playmates. The buildings, inside and outside, were exceptionally free from markings by pupils; and this freedom is an index of the moral tone of the school.

School assemblies offer an opportunity for developing a social consciousness. With the three auditoriums which are now planned for next year there will be increased opportunity for this valuable phase of school work. The per cent of time given to opening exercises in Leavenworth is less than half of the average for other cities. It is recommended that the time for this purpose be increased. For additional recommendations for school assemblies see page 65.

History and civics contribute directly to the preparation for civic and moral activities. Their value in this connection is another reason for recommending that additional time be given to these subjects. For the recommendations concerning literature see page 147.

In addition to these facilities for moral training, the Leavenworth public schools have a system of bank savings. This tends to cultivate thrift and, more important, a sense of value and the recognition of property rights. Bank savings have also a bearing on the preparation for vocational activities.

#### PREPARATION FOR ACTIVITIES OF PERSONAL HEALTH.

Preparation for the activities relating to personal health is provided for by physiology and hygiene, physical culture, and plays and games. The Survey Staff believes that this work should be extended. Specific recommendations are given in later chapters. See pages 113 and 141.

#### PREPARATION FOR ACTIVITIES OF SOCIAL INTERCOURSE.

The group activities of the school, such as athletic clubs, literary and dramatic societies, boy scouts and similar organizations, etc., furnish preparation for these activities. Some preparation is given incidentally in the activities of the classroom and playground. The auditoriums will make the extension of these activities possible. See page 65 for recommendations.

#### PREPARATION FOR ACTIVITIES OF HOME-BUILDING AND PARENTHOOD.

Partial preparation for these activities is given by the courses in manual training and domestic art and science. The extensions recommended for these courses will provide additional preparation. See pages 106 and 164. Courses in household accounting and hygiene (in the High School) are also recommended.

#### BANK SAVINGS.

The system of bank savings in the Leavenworth Public Schools was begun about three years ago. Briefly the plan is this: Any bank may send a representative once every two weeks to each school building to receive deposits, the schedule being approved by the superintendent, and the representatives of no two banks appearing in any school on the same day. The banker opens his bank in the hall or principal's office between the hours of 8 and 8:30 a. m. Each child deposits at that time, if he so desires, and receives a deposit slip. Two of the local banks have taken advantage of the opportunity offered. Both signify their intention of continuing the plan, although they agree that it is not self-supporting. Incidentally it may be noted that this is typical of the spirit of coöperation which should exist between business and the public schools.

During the first three-quarters of the present school year 3384 deposits were made by the children in the elementary schools. The number of depositors and the total amount of the deposits were not obtained because it is believed that the number of acts of depositing is more significant.

#### THE USE OF SCHOOL ASSEMBLY HALLS.

By September, 1914, assembly halls will have been provided at Morris, Third Avenue and Oak Street schools. It is hoped, also, that these halls will be used frequently in the evenings for parents' meetings and neighborhood discussions and for social entertainments. Rightly used, such a gathering place becomes the very center of the social and intellectual activities of the school and the community. In addition, the entire school should assemble every day for a period not longer than thirty minutes. Because of the necessities of the case, most of the day in the modern school is spent in isolated groups, where the special needs of children of varying ages can be properly ministered to; but it is also essential for unity and growth into good social and civic consciousness that these groups should get together at least once a day; that they should have a time to cooperate for the pleasure and well-being of the whole; a place to contribute and share their best and choicest experiences. Here the child will learn that he is a member of a school community, and that as such he has duties as well as rights and privileges. Here, without exception, each child should take his turn and do his share in making these daily assemblies the most useful and delightful periods of the day. Here the children and teachers may learn to know every one in the school. The little ones learn much from the older ones, and the older ones gain real sympathy and appreciation for the little ones, and a spirit of helpfulness and protection results that is in marked contrast to the attitude which too often exists between the older and younger members of a school.

To establish such a practice in the school takes time and steady, persistent effort, perhaps for more than a year, but the results more than repay for the energy and effort expended. The older children gradually realize the value, even to themselves, of the clear thinking and definite preparation that is needed before they can be understood by an audience ranging in age from children of kindergarten to the adults—members of the faculty. It is not a small thing for eighth-grade boys and girls to succeed in making a current-events exercise, through the use of maps and pictures, intelligible to younger children, and at the same time interesting to the rest of the audience; or for a high-school group in a chemistry exercise, through carefully made models, to show the proportion of the different gases that make up common air. In the latter example, perhaps they may not succeed in making the little children understand all about it, but certainly their expression succeeds in clarifying this work in the minds of the pupils giving the exercise, and the little children get out of it the spirit and influence of this serious social effort.

For the little children the good effect of the daily meeting is perfectly obvious. It is the greatest possible incentive to them for the best expression; the greatest possible opportunity for drill under good motives; the greatest possible means of overcoming self-consciousness and

contributing one's self to the community good. Miss Martha Fleming, of Chicago, who has had wide experience with children in such daily meetings, says that the conditions surrounding these exercises are ideal for the cultivation of the powers of expression—"an audience and a child with something to tell"—and that they are of untold educative value, since they present an opportunity and make a natural demand for a great variety of expression. The child plans, he speaks, he acts, for the pleasure and enlightenment of other people. Children accustomed from early childhood to an audience learn to think and speak upon their feet, so that people may hear and understand them. It is the habit of meeting an audience *every day from the beginning* that tells; that gives power and skill and self-possession. Children trained in this way never experience the agony of self-consciousness that it means to those educated in self-repression instead of self-expression.

It should be remembered that while pupils constantly gain useful information in these exercises, the gaining of knowledge is not its sole end. Indeed, it is not even its chief purpose; it is rather an attitude of appreciation which is cultivated in the children through emotions which are aroused, through ideals which are engendered, through the daily habit of singing together beautiful songs and of hearing bits of inspiring literature, and, either as performer or as listener, of contributing each one his best to the common good. In short, we believe that the morning exercise, at its best, is a soul-expanding and heart-warming process which contains the very essence of normal and natural social education, and that it is the factor in school life which works most directly and effectively toward the good citizenship which is the goal of all our schools.

#### THE METHOD OF THE SURVEY OF THE SCHOOL SUBJECTS.

The courses of study for particular subjects and the teaching of them were examined in three ways:

*First.* Actual visitation of teachers in their classrooms. The teachers were requested to proceed with their regular work, and the several members of the Survey Staff entered classrooms unannounced. Every teacher above the third grade was visited for at least a full class period, and a number were visited more than once. The work in the first three grades was surveyed in a somewhat different manner, but every teacher was considered.

*Second.* Numerous conferences were held with teachers to determine their purpose and point of view as well as the course of study as actually taught. These conferences were supplemented by a general request to all teachers in the form of a "questionnaire to ascertain method of teaching," which contained directions as follows:

Select a topic which you actually taught during the past quarter and which you consider you taught effectively.

Describe below your method of teaching the topic, including:

- (a) The pages in the text.
- (b) The assignments which you made.
- (c) The order in which you took up the topic.
- (d) Your method of presenting it.
- (e) Why you consider your teaching of the topic effective.

This topic should cover at least one whole recitation and not more than five. If you teach more than one subject, select a topic from each. Be brief and specific.

*Third.* Tests for which comparative data were secured were given in arithmetic, handwriting, spelling, grammar, and algebra.

In observing the classroom work use was made of the following observation blank:

OBSERVATION BLANK.

Name of teacher..... Building.....  
 Grade..... Class in..... Time of day.....  
 Lesson on..... type of lesson;  
 study, development, application, recitation, review, drill.  
 Approximate number in class.....; boys.....; girls.....  
 Teacher's knowledge of—  
 Subject matter: Excellent, good, fair, poor.  
 Organization: Excellent, good, fair, poor.  
 Function of subject matter: Excellent, good, fair, poor.  
 A brief narrative of what was done:.....  
 -----  
 Results as judged by the effects upon the pupils—  
 1. Motive .....  
 2. Evaluation .....  
 3. Organization .....  
 4. Initiative .....  
 5. Acquisition (do pupils know the subject matter?).....  
 Was the instruction on the lower plane, attempted higher, or higher?.....  
 Do the pupils appear to like the subject? Like, indifferent, dislike.  
 Per cent of pupils actively attending lesson..... Why active?.....  
 Who is doing the work—teacher or pupils? Was the subject matter suitable to the maturity and past experience of the pupils?.....  
 What use does the teacher make of the text?.....  
 Assignment, how made?.....  
 Discipline and classroom routine: Good, fair, poor.  
 Type of discipline: Military, personal, social.  
 Remarks: .....

For using the blank the following directions were prepared:

In judging the motive, the question is, What *kinds of motives* are moving the pupils to action? Are they *artificial incentives*; *e. g.*, a reward, fear of punishment, respect for the authority of the teacher or school, the competition of the social group, desire to make a good showing, etc.? Or are they *real motives*; *i. e.*, do the pupils appreciate the intrinsic function of the subject matter and are they developing a liking for the subject because they are coming to realize the usefulness of the subject?

In judging of the *consideration of values by pupils*, it should be noted whether the teacher conducts the class period in such a way as to require the pupils to consider relative values, as well as whether the pupils exhibit ability to evaluate.

The above paragraph also applies to the *attention to organization by pupils*. Whether the pupils make an attempt to organize depends upon the type of questions which the teacher asks. If the teacher asks only detailed questions there is no need for organization.

Under *initiative*, the questions are: Are the pupils planning for the things which they do, or are they simply following the detailed directions of the teacher? Does the teacher permit opportunity for the exercise of initiative, or does she make the exercise of initiative impossible because of her detailed specifications both in assignments and in conducting the recitations?

In determining the "plane" of instruction, one should have in mind primarily *what the pupils are actually doing*, and *not* what the teacher may do.

If the teacher is taking the lead, is in the foreground, if the pupils are moved by artificial incentives, if the questions call simply for detailed facts, and if the class period is spent by having the pupils recite to the teacher what they have read, the instruction is on the lower plane.

On the other hand, if the pupils are taking the lead, if the teacher is in the background, if lines of thought are pursued in which data are evaluated and organized, and if the pupils are doing this because they appreciate the function of the subject matter, the instruction is on the higher plane.

## CHAPTER IX.

## THE PRIMARY GRADES.

Flora J. Cooke.

## THE METHOD OF SURVEY.

THE following report is based upon a week's observations in the primary grades of the Leavenworth Public Schools. The first three grades in seven schools were visited, and twenty of the thirty primary teachers were observed in not less than two and not more than three lessons. In addition to this, these teachers also submitted programs of work, analyses of lessons, and specimens of children's work for examination.

The principals all showed the deepest interest and concern in the welfare of the teachers, and the teachers expressed enthusiastically their appreciation of the help received from the principals and from the superintendent. The relations between the children and the teachers were also genuinely good in spirit. During the entire week I heard no harsh word spoken, and saw no unruly child in any school, while marks of interest—even of affection—existed in every part of the school system.

## DISCIPLINE.

There are two types of school discipline. *One* may be described as *military*. Under this type there is absolute obedience to authority with very little exercise of initiative on the part of the pupils. The activities of the schoolroom are performed in response to signals. For example, all children stand when called upon, and remain standing until excused by the teacher. There is a uniformity of response on the part of the part of the children to the demands of the teacher which is depressing to an observer used to great freedom in the activities of children. The *other* type may be called "*socialized*" school discipline. There is less uniformity, more initiative on the part of the children, sufficient freedom and opportunity to carry out simple projects, to make childish mistakes. More emphasis is placed upon social motives.

Opinions differ as to which type of discipline is preferable, but the writer believes that to the excellent results which are now obtained in the primary grades in Leavenworth, others might be added by discarding somewhat of the military system which prevails and by appealing more to social motives and allowing opportunity for initiative in some activities.\*

The superintendent and principals stated that much individual freedom was given to the teachers of experience and ability, and it should be understood that the superintendent and many teachers are in hearty accord with many of the changes which are recommended in this report. In fact, several improvements here suggested have already been planned for; among these are plans for larger and better-equipped playgrounds for certain schools, and for several assembly halls.

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\* The Survey Staff indorses this recommendation and believes that it might be profitably applied in all grades of the elementary school.



Only the four so-called "major" subjects from the course of study will be analyzed with any degree of fullness.

#### READING.

This is a "major" subject in all of the primary grades. In the first grade the natural "look and say" method of teaching reading is emphasized. The teachers are warned against the too early analysis of words into sounds, and also against permitting the mechanics of reading to crowd out interpretation. The worst evil of the course of study in reading is the required textbooks which are used. The children are con-demanded to Van Ambaugh's primer for the first three months, and to the Wooster series of readers for the next three years. These books are demanded by the state law, and though they are not worse than many others, they are of the usual scrappy, unrelated, uninspiring kind, the sole use of which is to give the children the conventional vocabulary of the first years in school. The impositions of such poor and meager reading material should not be tolerated. The teachers should convince the parents that this uneducative matter falls far below the ideal, and both parents and teachers should put forth a united effort to have the school-book law of Kansas repealed. The new law should be flexible enough to allow, in a community the size of Leavenworth, a committee of carefully chosen, experienced primary teachers to select the reading books for the primary grades. This plan should include the supplementary books as well as the readers. Their choice should, of course, be approved by the superintendent of schools. If a uniform course is necessary throughout the state, a joint committee of primary teachers and superintendents should pass upon the series of books.

In addition to given textbooks, it is usual to plan for four or five sets of readers for supplementary reading; but although it has been demonstrated beyond the shadow of a doubt that children who have opportunity for a wider range of reading learn to read more quickly and that they read more intelligently than those confined to one reader, Leavenworth has not yet given its children this advantage, presumably because of the restrictions made by the state law. Therefore, the Board of Education of Leavenworth is urged to consider this plan, and also the *reading leaflet plan*, which has been used with excellent results in the Francis W. Parker School of Chicago, in the Ethical Culture and Horace Mann schools of New York, in the De Kalb Normal Practice School, and in many other places throughout the country. This plan was started in the Cook County Normal School under Colonel Parker, and consists of printed reading leaflets for use in the primary grades; these to be used largely in place of supplementary reading books. In order to do this, a good but not elaborate printing outfit should be purchased by the Board of Education, and some teacher who has had experience in printing should be employed to give certain hours each day to the work. Printed supplementary reading leaflets and dictionary words can then be freely used by the children in the primary grades. These are especially useful in the first two grades, where good reading material is most scarce. (A school paper or magazine, managed entirely by the upper-grade pupils,

is also an educative possibility connected with the printing press.) These leaflets should be set up in large-sized type and printed by the pupils of the seventh and eighth grades in the public schools under the direction of the teacher-printer.

Each school in Leavenworth is adjacent to some natural and educative type of landscape, or to some industrial or manufacturing plant that is worthy of study. The Franklin School is situated in a beautiful grove of trees, is accessible to a most interesting ravine, and Pilot Knob is almost in its front yard. There is also a large bridge works in the vicinity. The Morris School is near the city waterworks and the river, and the Sumner School has for its neighbor the excellent Parker Amusement Company. What better work in reading, writing and spelling could the children have than composing material for leaflets, expressing their own observations, impressions and bits of acquired knowledge concerning the natural phenomena and industrial activities which exist in Leavenworth, and which consciously or unconsciously influence their lives? Through the exchange of these leaflets between the schools the children could be bound together by a common knowledge and interest in their civic and natural environment. For instance, they would learn what flowers come first in the north ravine, how many kinds there are, and how they differ from those which grow on the slopes of Pilot Knob; or whether the ravines in the north and south parts of town have been formed in the same way, and where the raw materials come from which are used in the bridge works. This live form of reading and composition appeals to every child, as does the writing of a book giving the early local history; in fact, the plan is excellent from every point of view. In this piece of community service the older pupils get training in the correct use of English, in the printing craft and in practical citizenship, and the younger children gain economically, under the stimulus of interest, not only the same formal results in vocabulary (which usually must be secured by much drill in stupid unrelated lessons), but also the richness of experience which comes to children from the habit of daily expressing their own ideas and emotions in the best possible form and under the supervision of a wise and interested director. Experience has proved that the vocabulary which the children master in this kind of work does not differ greatly in the number or kind of words from that gained through the ordinary drill process with the textbook for a basis, but the educational content of the work is vastly superior and well worth the effort involved.

This plan is as expensive as that of supplying supplementary readers, but since scarcely any first reading books appeal to a child's interest or intelligence except through pictures (the Free and Treadwell Primer is a brilliant exception), and since Leavenworth has not yet spent money upon such books, the writer recommends that this leaflet plan be given a trial, believing that the plan will tend to place the schools of Leavenworth in the front rank with other schools that are struggling to get the best things for children.

Some teachers in Leavenworth are already attempting to do this type of work under great handicap, using large rubber type for printing, but this takes too much time for frequent use, so that it can never be an

effective or flexible medium of expression, and the large charts which result are not easy to exchange among the schools. Under the leaflet plan, news can be exchanged between the schools, games explained, and special school celebrations described; the form and vocabulary used in the leaflets being limited both by the skill of the children composing them and by the ability of corresponding classes of children in other schools who will read them.

From a formal point of view, the reading in the Leavenworth schools is good, but there is a deplorable waste of time on account of the poor quality of the reading material used. The intelligence of the children requires more exercise upon material which demands keen observation, initiative, good taste, good judgment, and a genuine effort in self-expression.

#### WRITING.

Writing is the second "major" course in the Leavenworth schools. Of the *penmanship* there is little to say beyond the fact that the results are good. This would be expected from the habit of daily drill.

Writing as *means of expression* seems to receive little attention in the primary grades and is not mentioned in the course of study. Almost no original expression in composition was seen in the first grade, and very little in the second or third except isolated sentences in connection with the reading lessons, which were written upon the blackboards by the teachers. The writer requested the teachers of the second and third grades in all the schools to have the children hand in written sentences in response to the question, "What do the children in Leavenworth like to do to have fun?" The period to be given to this work was not to exceed thirty minutes. From the second grade 180 papers were received. The work came from seven schools—from the Third Avenue, Franklin, Maplewood, Sumner, Morris, Oak Street and Jefferson schools. The largest class represented had twenty-nine pupils and the smallest fifteen. The uniform type of answer was remarkable. The following examples taken at random from three schools are thoroughly typical of all the papers from the second grade.

A typical paper from the Third Avenue School set:

I like to play hide-and-peek.  
I like to play shadow tag.  
I like to play bean bag.

A typical paper from the Morris School set:

I like to write.  
I like to sing.  
I like to eat.

A typical paper from the Jefferson School set:

I like to play tag.  
I like to play with my doll.  
I like to play house.

There were 166 papers which consisted of just three sentences of this nature, and in eight others there were more sentences, but of the same kind. In all of the papers the penmanship and spelling were good, and almost all of the sentences began with capitals and ended with periods. In

the six papers showing more originality in the children's expression the spelling was good, but not so perfect as in the other papers. Four of the best papers were from one room in the Jefferson School. Three of these are as follows:

HOW I LIKE TO HAVE FUN.

This summer we are going into the woods.  
We will take our lunch with us.  
We will wade out into the water and go boat riding.  
We would pick lots of flowers.

HOW I LIKE TO HAVE FUN.

I like to have some little girl to come and play with me.  
Some day I will have a party out in the grass.  
I will be glad when papa comes home with a bag of candy.

HOW I LIKE TO HAVE FUN.

I like to have fun playing baseball.  
I like to have a store of my own.  
I would like to have fun guiding an auto.  
I would like to have fun playing soldier and Indian.

The most original paper handed in was from the second grade, as follows (it came from the Third Avenue School):

I like to play cowboy best of all the games in the world.  
I get on my rocking horse and I gallop away to get cows.  
I play it in winter and summer both.  
It is lots of fun.  
I play it with Lewis.

From the third grade 141 papers were received from the seven schools. With the exception of one school, of 29 children, in which nearly all the papers differed in form and were exceedingly good, there was no marked improvement over the papers of the second grade in penmanship, spelling, composition, or content. Of these papers 112 were almost identical with those of the second grade; 104 of these had each but three sentences, of which the following two from the Maplewood School are good types:

I like to play baseball.  
I like to play marbles.  
I like to spin tops.  
  
I like to go to school.  
I like to play with dolls.  
I like to read story books.

Eight other papers were very similar to these, but had more sentences. From the Oak Street School, where the teacher seemed to have made a different demand upon the children, and where I am sure the children must have the habit of using greater freedom in written expression, I have selected four papers. The spelling in this room was not quite so good in all cases, but as several of the children were evidently foreigners, that could be, in a measure, naturally accounted for, and the gain seems to the writer greatly to overbalance the loss. From Oak Street School:

FIRST PAPER:

I have fun playing tag with my dog.  
I play that the swing is base, and I play that my dog is *it*.  
I have fun playing school with my dolls.

I play that I am teacher and whip my dolls sometimes when they are bad in school.

I have fun playing Santa Claus. I play that I am Santa Claus and I drop a few things behind me.

SECOND PAPER (from a little Italian boy who has been in this country only two years):

I have fun to the river, and I saw there three little frogs.  
 And they jump up and down, and when I was going to catch it he skip away.  
 And nother time I went to the "krik" and I saw a little babe snack, and he just sing just like bird.

THIRD PAPER:

I have fun climbing hay stacks when I go to my grandmother's in the winter.  
 When my cousin and I climb the haystack we take a ladder, and then slide down the other side, and cover each up in the hay all but their head, and have fun that way.

Several other children of the twenty-nine mentioned explained games in full, told how they acted out stories, and described many interesting and amusing incidents. They showed spontaneity and joy in expression which was worthy of the consideration of all the other primary teachers.

In summing up, it is just to say that the results from this one test would indicate that the emphasis in writing has been placed too largely upon the forms of expression in the schools, and that while the penmanship and spelling are good, the conclusion is that these good formal habits should be utilized much more generally in the expression of thought. Of course the fault in this case may have been partly because of the way the writer's question was given, or the way the teachers limited the children in their answers to the question, but in any case there is not enough difference between the second- and third-grade papers in normal development to be satisfactory. The papers in one school showed that children in the third grade are capable of greater freedom in expression, and the uniformity in all the other papers certainly gives the impression that mere formal results have been over-emphasized in the schools.

SPELLING.

Spelling is the third "major" subject of study in the primary schools. The writer asked for written papers showing the results of one day's regular spelling lessons in the second and third grades. The record from these grades in the seven schools is tabulated below.

*Second-Grade Record.*

SAMPLE LIST OF 25 WORDS.

glove	among	teacher	over	fourteen
match	chair	basket	been	which
papa	busy	these	slow	place
fence	hole	sugar	mama	button
bright	pencil	throw	happy	color

SAMPLE LIST OF 10 WORDS.

quick	read	shelf	spoon	teacher
window	write	play	turn	

All the other lists were similar to these, consisting of words from the regular readers which were already in the children's speaking vocabulary.

TABLE XIX.  
Second-grade Spelling.

NAME OF SCHOOL.	Number of pupils in grade.	Number of words in list.	Papers—number correct.	Papers with one word mis-spelled.	Papers with two words mis-spelled.	Papers with three words mis-spelled.	Papers with four words mis-spelled.	Papers with more than four words mis-spelled.
Third Avenue.....	27	20	19	6			1	1-6
Franklin.....	18	10	12	5				1-7
Maplewood.....	18	6	13	3	1	1		
Sumner.....	12	12	7	2	1		2	1-6
Morris.....	25	10	19	5	1			
Oak Street.....	27	5	20	4	1	2		
Jefferson.....	29	10	20	2	6	1		
Third Avenue, Second Group.....	13	25	8	1	2		2	

*Third-grade Record.*

SAMPLE LIST OF 25 WORDS.

chowder	banana	grade	dismiss	mutton
oyster	sneeze	improvement	basket	always
February	improve	syrup	once	thieves
preparation	biscuit	veal	chimneys	prepare
pickle	soup	buffaloes	dismissal	

SAMPLE LIST OF 10 WORDS.

easy	always	smooth	against	toward
touch	sword	shelf	bridge	guess

TABLE XX.

*Third-grade Spelling.*

NAME OF SCHOOL.	Number of pupils in grade.	Number of words in list.	Papers—number correct.	Papers with one word mis-spelled.	Papers with two words mis-spelled.	Papers with three words mis-spelled.	Papers with four words mis-spelled.	Papers with more than four words mis-spelled.
Third Avenue.....	22	25	8	6	2	2	1	{ 1-5 1-8 1-14
Franklin.....	27	10	14	1	5	4	3	
Maplewood.....	21	25	11	5	2			3-5
Sumner.....	18	12	12	2	2		1	1-5
Morris.....	22	10	15	4		1	1	1-6
Oak Street.....	28	6	20	6	2			
Jefferson.....	20	10	6	6	6		1	1-8

These data are given for whatever value they may have. One may not base conclusions concerning the spelling in the Leavenworth schools upon this one test; the lists of words differed greatly in number (varying from 25 to 5 words daily) and the words were different in each list. The classes having 20 and 25 new words seem to compare favorably with the classes having only 5 or 6. These data, therefore, are inserted chiefly because they came in response to the request for the written results of *one day's regular spelling lesson* in the second and third grades, and because they may be suggestive to the teachers in Leavenworth to question the significance of such varying demands and results in a school system of the size of Leavenworth.

#### NUMBER WORK.

Number work is the fourth "major" subject.

The following is a description of a number lesson which the writer observed in a first grade in which the children were exceedingly alert and accurate and the teacher full of interesting devices. The lesson was described by the teacher herself upon the observation blank provided by the Survey Staff, and is inserted below in the teacher's own words, but the description fails to give an idea of the spirit which animated the entire class.

#### *Number Lesson—First-grade Class.*

##### DEVELOPMENT OF 8 AND COMBINATIONS.

First, review work, previously given on 7's. Children have 7 objects. Child puts 1 more with them and sees 8.

Use a number of different objects, to show the same combination, that 7 and 1 are 8.

Have children give little number stories about these objects, after which teacher gives the figure 8.

Children trace it in the air as teacher makes it on board. Then class makes it on board and slates.

Each child has 8 objects. Begins with 1; sees that 7 more complete the 8.

Then we gain the following:  $7 + 1 = 8$ .

Then look at objects again; take away 7, the 1 remains. Take away 1, 7 remain.

Begin with 3 objects, and see that 5 more make 8. Take away 5 and 3 remain; take away 3 and 5 are left.  $3 + 5 = 8$ ;  $8 - 3 = 5$ ;  $5 + 3 = 8$ ;  $8 - 5 = 3$ .

I play store with them, and they buy. (I have several objects to sell.) They have 8 cents to begin with. They must tell how much will be left after buying from me.

I also use children to illustrate the combinations of 8 and the taking away of different numbers.

I also use a string of 8 apples.

It was effective, for the faces were alive with interest and enthusiasm, and they knew the work next day and could give me the combinations belonging to the 8 family. I use objects and pictures all the time.

Judging from the work which I observed, there is no doubt that the *number work outlined for the primary grades* is most thoroughly and excellently done. The children work accurately and rapidly and enjoy the activity as thoroughly as they would an interesting game. The question is whether they are not too well drilled for the present use they can make of the number element in their actual living; whether the time given for so much drill for rapidity in addition and subtraction could not be better spent at this stage of development upon nature study and literature, allowing the children to see and to do things requiring the use of

several senses. If more of the work in measuring with various standard units of measurement, under the stimulus of some motive or purpose which the children could appreciate and from which they would gain experience in many directions, could be placed in the first grade, and more of the rapid abstract work placed in the third, it would seem a better arrangement and more adapted to the children's present needs. The writer believes that the children in the primary grades should have plenty of work in applied number, as it is needed in games, in nature study, in manual training and in science experiments, and that the units of measure thus used should be well fixed through use, but that most of the drill for rapid and accurate calculation should come *beyond the second grade*. This is not because the work can not be done in the two earlier grades (for as a matter of fact it is being well done in at least four schools which were observed), but because other more useful and necessary things are crowded out of this period of the child's life by so much number drill; and also because, when so much is done in the first and second grades, there is but little left to do in new mathematical processes and in the fundamental operations between the third and fifth grades; and still further, because much of the time so used is wasted, since in order to keep fresh what they learn until they have use for it the drill must be kept up, going over and over again the same facts and combinations until, from very weariness and lack of interest, the work is poorly done. Therefore, the Survey Staff urge that the drill upon the number process and work for rapid calculation be placed somewhat later in the course, when the child can feel the need or purpose for such work as he does in the third, fourth and fifth grades. This advice may have more weight, since it has been found in Leavenworth, as in other places, that pupils in the upper grades have not been made more efficient or accurate in mathematics from any point of view by the great emphasis placed upon the subject in the early grades.

COMMENTS UPON THE TELLING OF STORIES, WHICH IS A "MINOR" SUBJECT OF STUDYING IN THE LEAVENWORTH PRIMARY GRADES.

In three schools in which story-telling was observed, the writer has only commendation, for both the choice of stories used and the manner of telling them by the teachers. In another school, however, the children had apparently memorized the exact words of the stories they were telling, and therefore the work was lacking in spontaneity, and at least one of the chief values in story-telling was lost, in that the children were not imaging and expressing their own conceptions while telling the tales.

COMMENTS UPON THE DRAMATIZATION OF STORIES, SCHEDULED AS A "MINOR" IN THE LEAVENWORTH PRIMARY GRADES.

The writer saw the children acting out stories in three schools. In one it was merely the perfunctory going over of set movements, which had been repeated so many times that no thought was aroused. This was in a second grade, where the teacher said to the writer, "Perhaps you would like to see the children dramatize something," and out of a clear blue sky she called upon the children to act out "Jack and Jill." The children were willing, and it is true that "Jack fell down," but he kept



his "crown" carefully uplifted in the air so that it could not possibly have been "broken." He got up smiling, put back the pail, and ran back with Jill to his seat. No comment was made or expected. He probably had done the same thing in the same way a great many times.

In another room (third grade) the children played being "The little kind girl" and "The little cross girl." It was done in a self-conscious and stilted way, using the books for guidance in giving the exact words of the story, though the ideas could have been assimilated in one reading of the text. The choice of material here was not good, for though the story was dramatic in form, the literature was not of sufficient value to be worthy of the children's time, nor did the character of the self-righteous little good girl warrant the deep impression which acting gives.

On the other hand, in the other two schools there were glimpses of dramatic action which indicated real insight into and appreciation of the function of dramatic expression in education and a most careful discrimination in the choice of material. In the third grade of the Oak Street School the children acted out their own naïve interpretation of "Philemon and Baucis," and in the first grade of the Morris School the children delighted in the story of "Æolus and the Winds," and their expression was charming, spontaneous and original.

One found teachers in Leavenworth well aware of the dangers involved in giving school plays and dramatic presentations: such as, the overstimulation of children; the fostering of a tendency towards artificiality; the cultivation of insincerity; and, by overelaboration, the systematic blighting of the imagination, which may come to children if dramatization is thoughtlessly used. And these teachers also recognize the great value of dramatic presentation in education when it is rightly understood and directed.

Among the many possible values of the school play, a few might be named: such as, the establishing of moral ideals; the cultivation of initiative; the demand for the subordination of self to the group; the overcoming of self-consciousness; the training in good speech; the giving of bodily control and freedom in expression; and the appreciation of literary beauty. There is at least one teacher in the Leavenworth primary grades who is able to help the other teachers to gain the right point of view in dramatization, and the writer suggests that in the weekly teachers' meetings those in the system who are especially gifted or well trained in any one subject be asked to help those who are less able or less experienced, but who are attempting to do the same kind of work.

#### PHYSICAL TRAINING, SCHEDULED AS "SUPERVISED WORK" IN THE COURSE OF STUDY.

The physical training in the Leavenworth schools ranges in quality from the perfunctory carrying out of directions given by the supervisor to the freer interpretation of these directions in a few schools by the teachers who instinctively understand the needs of children and who work from principle in their attempts to get the best results from the physical exercise. The same conscientiousness was observed here as in the other work. Each lesson for the entire year is carefully outlined by the super-

visor and given to the class teacher in typewritten form, and she is expected to carry out these directions at least in spirit. Each lesson includes drill in correct standing position; facing; marching; arm, leg and trunk exercises; ending in each case with a game. The lesson is never twice alike, and plans for progression are provided for within the grade as well as from a lower to a higher grade.

If all the teachers were required to hold rigidly to these outlines the work might easily become perfunctory and mechanical, but this excuse for poor work does not exist. However, there seems to be little or no demand from the physical-training department for fresh-air activities, or for corrective gymnastics adapted to the needs of particular children. It is to be hoped that in the near future gymnasiums and swimming pools will be made accessible, so that all the children may use them, and it is urged that every school be provided with a well-equipped playground. At present the schools with the poorest provision of space outdoors seem to make the very best use of what they have, showing that they deserve better conditions. It seems to the writer that the great benefits of outdoor play, under right conditions and supervision, have not yet been recognized adequately in the community. It is well known that the playground, rightly used, is quite as strong ethically as physically in making for good citizenship.

#### CONSTRUCTION WORK OR ELEMENTARY MANUAL TRAINING.

In order to make clear what the writer considers to be a fundamental principle, two observations are cited. The writer asked to see the manual-training work in one of the schools. It was a week in which it had been planned to make kites—a very fitting plaything for the season—but the wood had not come, and the teacher, with mistaken zeal, called upon the other teachers and sat up all night preparing small cardboard frames, with dots about an inch and a half apart (which any second-grade child could easily have made) over which thirty-five children in the third grade were to make string bags. In the construction hour the children's work consisted in tying knots over each dot. There was little opportunity for serious effort on the part of an intelligent child of that age, since a mistake was scarcely possible, and the writer would have much preferred seeing this class make original working drawings for their kites, working from the teacher's dictation; or it would have been more valuable if the teacher had discussed with the children the simplest scientific principles involved in kite making. She could have given them information which they might have tested out by their experiments in the flying of kites; or she might have allowed them to draw original plans to a scale, and they could have made the kites at home from newspapers and waste pieces of wood.

On the same day, in a first-grade room of thirty children, each child was given strips and paste and provided with cardboard, all beautifully cut out by the teacher, to be used in making a play wren house. The children then followed dictation, folding the house on the carefully drawn lines, cutting out the circular door, pasting the ends of the house together, and putting on the roof. It took about twenty minutes of each child's time to finish thirty useless little bird houses, which looked very well, but

the teacher must have spent several hours in preparing the work. She also had done the thinking and planning. Again, in the writer's opinion, it would have been more educative work had several models of wren houses been placed before the children, if they had been given pencil and paste, and if each child had been asked to work out his own model of a wren house. The results would have been exceedingly crude, but the next day the teacher could have written directions on the blackboard which the children could have followed and which would have resulted in better houses. It is probable that even then there might not have been more than three or four really good models, but every child should have been exercising skill and judgment to the limit of his ability, which was not the case when each child contentedly and successfully followed the directions which were so simple that only a small degree of mechanical dexterity was necessary.

In both of these cases the teacher directing the work showed energy and good teaching ability, and accomplished the results which she planned for in excellent spirit, but since a burden of useless work rested upon the teachers, and since the Survey indicates that this fault in the manual-training work extends beyond the primary grades (and particularly since this seems to be a very common mistake in the handwork in schools all over the country), it seems wise to emphasize the futility of such exercises in a child's education. It will be perfectly obvious, upon reflection, to these and other good teachers doing this kind of work, that the educational value will be much greater to the children when the energy and industry which now goes into getting such quantities of quickly achieved but useless results is turned into getting self-actuated effort and activity into the *children's work*, and when the objects which are made are useful, however crude they may be.

The Survey Staff believe in urging that attention be given to this criticism; that it is in line with recognized expert opinion concerning manual-training work. It is in harmony with the ideas of Mr. Edward Worst, of the Chicago public school system, and Mr. Arthur W. Richards, of the Ethical Culture School in New York City, and with those of many other well-known directors of work in different parts of the country. The trend of education is placing the demand for activity and effort upon the child, and holding the teacher responsible for providing conditions which shall arouse in him motives and purposes that develop power and initiative. Social motives insure prolonged, sincere and cheerful effort, and result in satisfactory achievement.

COMMENTS UPON THE APPLIED ARTS DRAWING COURSE, SCHEDULED AS  
"SUPERVISED WORK" IN THE PRIMARY GRADES.

The report upon the applied arts drawing course appears as a whole in another part of this Survey, but the writer wishes to express appreciation of the spirit of the work in the primary grades. If at present the technique is somewhat overemphasized, and the time given to freer expression in connection with nature, literature and handwork is thereby curtailed, it is only a temporary phase of the work. The facts that the supervisor of this department and the teachers doing the work are open-minded and enthusiastic, desiring to be students of children as well as

of subject matter, and the fact that already (though the work is only two years old) some of the dangers of unrelated, isolated drill and of using a set series of books as a guide have been recognized, make one sure that this department will more and more use painting and drawing for their true purpose in the expression of thought. Drill will be used in helping children to overcome obstacles in technique which have arisen in their own work. All the problems that the child needs to solve, involving color and form, will arise naturally if he continually paints and draws in his science, history, nature study and literature, illustrating and making clear his imagery in the subject he is studying. There should, of course, be sequence in the work, but this should be determined from the standpoint of the child and not from that of the subject matter; and however good the textbook on art may be, it should be only the assistant to the teacher—the source of reference and advice. It should follow, not lead, and since this principle seems to have been grasped by the department, growth in art expression and appreciation are certain to come to the children in the Leavenworth schools.

## CHAPTER X. ARITHMETIC.

Walter S. Monroe.

### THE COURSE OF STUDY.

SYSTEMATIC instruction in arithmetic extends throughout the eight grades of the elementary school.

In the fourth grade Smith's Primary Arithmetic is completed, pages 165-308. By the end of this year the pupil is expected: (1) to have mastered the four fundamental operations for integers; (2) to be able to use the four fundamentals in easy common fractions and easy decimals; (3) to apply the above, as fast as acquired, to—

Extension in one direction: inch, foot, yard, decimeter and meter;

Extension in two directions: square inch, square foot, square yard, square decimeter and square meter;

Extension in three directions: cubic inch, cubic decimeter;

Weight: grain, ounce, pound, gram;

Dry capacity: quart, peck;

Liquid capacity: pint, quart, gallon.

In grades five to eight the course of study is based upon Smith's Topical Advanced Arithmetic. The text is supplemented by problems and material furnished by both the pupils and the teacher.

### POINTS OF EXCELLENCE IN THE TEACHING OF ARITHMETIC.

Although the results of the test which was given do not consistently indicate it, the writer believes the work in arithmetic is being placed upon a better basis. Some topics of arithmetic are now being taught so that the pupils understand the practical situations which produce the problems, and hence better understand the problems. This is well illustrated by the description of the first lesson on trade discount, which was given by a teacher in response to the "questionnaire to ascertain the methods of teaching":

"After teaching the simple cases of percentage, based on multiplication and division, our next subject was *trade discount*. I asked the pupils if they had ever noticed advertised sales of goods in the newspapers. Of course all had. I asked them to tell me about some of them. Every one could tell me about something that had been advertised at less than the marked price; some told of articles their mother had bought for them at sales, even telling what per cent off they got the goods for. We had a very interesting lesson telling *why* and *when* merchants sell goods for less than the marked price. They told me that goods were often sold at less than the marked price when the season for such goods was over; that some goods that were out of style were sold for less than the original price; that sometimes a man was going out of business, or was forced to sell out, etc. We got into such an interesting talk that it was hard to close the lesson. I closed this lesson by asking all to cut from a paper some advertised goods at discount. The next day we had more problems than we had time to solve. I sent each to the board

to figure up the discount on his goods advertised, and to find the price paid. Each had his own separate work to do and all were very busy about it."

In the beginning of the consideration of this topic the attention of the pupils was centered upon conditions in actual life which demand trade discount. As a result the pupils approached the problems with an understanding of them and their points of contact with the world of affairs. To these pupils the problems of trade discount were practical because of the way in which they had been approached.

On the other hand, in the following description of teaching liquid measure no reference is made to the connection of the subject matter considered with activities outside of school:

"Liquid measure was taught by beginning with the pint measure and building up to the gallon. First, the children were directed to fill the pint measure with water, pouring the water from that into the quart measure. The pint measure was filled and again poured into the quart measure, teaching  $2 \text{ pints} = 1 \text{ quart}$ . We then proceeded as before using the quart measure to fill the gallon measure, teaching  $4 \text{ quarts} = 1 \text{ gallon}$ . This plan was continued until the relations between the several measures were found."

So far as this description shows, there was no effort to connect this work of the schoolroom with anything which goes on in the world of affairs. Unless the pupils of their own accord realized that the milkman measures his milk in pints and quarts, and the groceryman sells vinegar by the pint, quart and gallon, and that the groceryman and milkman often must know how many of one measure make one of a larger measure, the work can not have been practical for the pupils. To them the work with the actual measures was abstract; that is, abstracted—taken away from even an imagined situation which would call for a knowledge of the table of liquid measure.

It might be pointed out that unless the pupil does understand the practical situation back of the problem he can not possibly know what arithmetical operation to perform upon the quantities which he is given. He must do what he is told to do either by the teacher or by the book. In the lesson on liquid measure the teacher told the pupils what to do at each step, and this was necessary, for otherwise the pupils could not possibly have known what to do. The "practical" problems in a text do or do not become practical to the pupils according as the pupils do or do not understand the practical situation which occasions the particular "practical" problem and connect the problem with that situation.

#### ORAL ARITHMETIC.

Some very spirited oral work was observed. A problem was given to the entire class. As soon as a pupil had solved it he rose, and when most of the class had so indicated their readiness to give the solution a pupil was called on. Another teacher conducted an oral drill upon the number facts of addition and subtraction by having the combinations written on the board and pointing to the combinations to be given.

Until the beginning of the administration of the present superintendent the work in arithmetic was largely oral and a stereotyped form

of oral analysis was insisted upon. Traces of this extreme emphasis upon oral arithmetic are still evident. The writer was told that pupils asked if they might solve the examples of Courtis Test No. 7 mentally, and, judging from the papers, some pupils did so.

#### CLASSROOM TECHNIQUE.

There is considerable work at the blackboard. The writer commends this practice and urges that there be even more in the upper grades. In the handling of work at the board greater efficiency would be obtained by improved classroom technique. For instance, a class was observed which was being drilled upon addition. One example was dictated; this was solved, and then another dictated, and so on. Some pupils finished and were compelled to wait until others finished. A few did not finish. Now much time could be saved if three or four examples were dictated at a time, and the work were stopped as soon as a pupil had finished all the examples. Even the slower pupils would then have some completed work. A record of the number of examples solved and the number correct would represent each pupil's score for the day.

One wasteful method was observed. Pupils were solving purely drill exercises on their slates. After all had finished, a group were selected to place their work on the board. The work was then explained in detail. In fact, it seemed that there was too much explaining of purely abstract work. Much of our understanding of things grows out of their use or manipulation. For the fundamental operations of arithmetic, drill is required upon the operations rather than upon repeated explanations of them.

Much of the work on practical problems was desultory. This was probably due in part to the assigning of the same problems to all or a group of students.

In the case of practical problems, when the purpose is study rather than drill, the work can be improved by making each pupil responsible for a group of problems either in the text or from lists supplied by the teacher. When a pupil has finished one problem let him immediately proceed to another, but save his work until the teacher can look it over. This plan will give each pupil something to do every minute of the class period. A few teachers in Leavenworth are now following approximately this plan. The teacher may spend her time, as some teachers were observed to do, in passing from pupil to pupil giving assistance to an individual or a group when it is wise to do so. In this way the teacher's help is given in response to a specific difficulty which the pupil has met.

#### MOTIVE.

It has been stated that "such statistical information as we have shows that arithmetic has always been looked upon by children as one of the most interesting subjects in the course."\*

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\* D. E. Smith. *The Teaching of Arithmetic.*

TABLE XXI.

*Tabulation of the replies to the question, "What school subject do you like best?"*

Subject.	Grade 6.	Grade 7.	Grade 8.
Arithmetic .....	67	78	70
Drawing .....	1	..	..
Geography .....	59	40	4
Grammar .....	19	27	20
History .....	1	10	30
Manual training .....	1	3	0
Music .....	5	2	1
Reading .....	38	41	24
Spelling .....	9	6	1
Physiology .....	..	1	1

The question, "What school subject do you like best?" was asked of the pupils in grades six, seven and eight. Table XXI shows arithmetic to be the most popular subject in Leavenworth in these grades. This immediate interest in arithmetic furnishes a partial motive for its study. An additional motive is secured by causing the pupils to understand the relation of the problems to the practical situations which produce them, as was done in the teaching of trade discount. The pupils then see the use of the problem.

Another teacher was found who in teaching insurance was spending two or three days in studying the insurance business and insurance companies. The pupils and teacher were contributing to a common fund of knowledge about the practical situation which occasioned the arithmetical problems of insurance.

Some attempts to motivate, however, were not so successful. Much of the success in securing motive must result from the assignment. The lack of good assignments no doubt contributes to the passivity and desultoriness of some of the work observed.

Classroom technique is also a factor in securing motive. This is particularly true in the case of drill upon the operations of addition, subtraction, multiplication and division. A plan of procedure which insures rapid and continued work will create enthusiasm. Such a plan has already been mentioned under the head of classroom technique.

#### ARITHMETICAL ABILITIES.

The Curtis Standard Test No. 7 was given to the pupils in the fourth, fifth, sixth, seventh and eighth grades in all of the buildings except Wilson and Cleveland. These two schools present essentially rural conditions, and the number of pupils in these grades was so small that it was decided not to give the test.

The test was given by the building principals of the three large elementary schools, Oak Street, Third Avenue, and Morris. The directions supplied by Mr. Curtis were followed carefully. A copy of the test was supplied to each pupil and twelve minutes were allowed for the work. The papers were scored by the teachers and were checked by the writer and a clerk working under his supervision. All calculations were made in accordance with the directions.



TABLE XXII.  
*Courtis Standard Test No. 7.—Class Averages.*  
 ATTEMPTS.

SCHOOLS.	Grades.								
	4	5B	5A	6B	6A	7B	7A	8B	8A
<i>Standard score</i> .....	7.0	9.0		11.0		12.5		14.0	
Third Avenue.....	6.5	6.3	8.2	8.8		7.7	6.8	9.2	8.2
Morris.....	4.6	5.4		8.6	8.0	8.6	9.8	10.8	12.2
Oak Street .....	5.8	6.7		8.2		7.7	9.7	10.4	9.5
Maplewood.....	7.7	6.6	5.9	7.5	8.0	.....			
Sumner. ....	6.8	8.7		9.3		9.4		9.8	
Lincoln.....	3.6	5.4		8.2		10.4		9.1	
Franklin.....	5.5	9.1		9.1		.....			
Jefferson. ....	7.0	.....							

TABLE XXIII.  
*Courtis Standard Test No. 7.—Class Averages.*  
 RIGHTS.

SCHOOLS.	Grades.								
	4	5B	5A	6B	6A	7B	7A	8B	8A
<i>Standard score</i> .....	3.5	5.2		6.7		8.2		9.4	
Third Avenue.....	1.5	4.9	6.5	4.7		4.4	3.9	5.6	5.7
Morris.....	2.2	3.1		4.2	4.0	5.8	6.6	8.0	8.3
Oak Street.....	1.7	3.4		5.2		4.7	5.2	7.0	6.5
Maplewood.....	1.3	0.7	2.2	3.8	4.4	.....			
Sumner. ....	2.6	4.4		5.2		6.4		6.3	
Lincoln.....	0.9	2.6		6.1		7.2		4.9	
Franklin.....	3.7	4.5		4.7		.....			
Jefferson.....	4.3	.....							

The classes were sufficiently large for the average scores to be reliable in most cases. In considering Table XXII we find that the fourth grade of the Maplewood School exceeds the standard average number of examples attempted, and the fourth grade of the Jefferson School just equaled the standard average. The fifth grade in the Franklin School exceeds the standard. But in no other case is the standard average equaled or exceeded. Thus out of 42 classes only three equaled or exceeded the standard average for the number of examples attempted. The average for most of the classes fall conspicuously below the standard; for example, the third and fourth grades in the Lincoln School, the seventh and eighth grades in the Sumner School, and practically all of

the classes in the three larger schools, Third Avenue, Oak Street, and Morris. It is interesting to note that the three cases of equaling or exceeding the standard average of examples attempted occur in the smaller schools.

In Table XXIII we find that again three classes equal or exceed the standard average for the number of examples worked correctly, but in only one case do we have the same class, viz., the fourth grade in the Jefferson School. The fourth grade in the Franklin School and the fifth A grade of the Third Avenue School are the other two cases. The fourth grade of the Maplewood School is one of the three lowest in number right, although it stood highest in the number of examples attempted.

TABLE XXIV.

*Per Cent of Examples Right (Based upon Class Averages).*

SCHOOLS.	Grades.								
	4	5B	5A	6B	6A	7B	7A	8B	8A
<i>Standard score</i> .....	50	58		61		66		67	
Third Avenue.....	23	78	79	53		57	57	61	69
Morris.....	48	57		49	50	67	67	74	68
Oak Street.....	29	50		63		61	53	67	68
Maplewood.....	17	11	37	50	55				
Sumner.....	38	50		56		68		64	
Lincoln.....	25	48		74		69		54	
Franklin.....	67	50		52					
Jefferson.....	61								

It may be thought that the low class averages may be due to the pupils working slowly but with unusual accuracy. In Table XXIV we give the per cent of examples right as determined from the above class average. This table shows that in a very few cases the per cent of examples worked correctly is materially above the standard per cent right. For instance, the classes in the Maplewood School are below the standard for both number and the per cent of examples worked correctly. In the fundamental operations of arithmetic, with the exception of the fourth grade, the pupils of the Maplewood School work more slowly and make relatively more mistakes than the standard classes.

On the other hand, both fifth-grade classes of the Third Avenue School work more slowly but with more accuracy than the standard fifth-grade class. In fact, the fifth A class is so accurate that the average number of examples worked correctly is conspicuously above the standard. The fourth grade of the Jefferson School has the distinction of being above standard from every point of view.

The observations of the writer tend to confirm the results of the tests. The inaccuracy of pupils was conspicuous in a number of classes, and

teachers commented upon the fact. The necessity of drill is emphasized by the superintendent in the course of study, but apparently it has been neglected for very little rapid drill work was seen.

#### RECOMMENDATIONS.

The results of the Curtis test show a need for written drill upon the fundamental operations with integers. This drill should secure increased speed and accuracy.

More attention should be given to the study of the practical situations which produce the "practical" problems. In doing this it would be well for a class to make a special study of some practical situations, such as banking, insurance, building or construction work, etc. But the teacher should avoid the monotony which will result if each succeeding class is ground through the same plan. The topics for special study should vary from class to class. Let each class have its own "hobby." After a practical situation has been studied, a wide range of the typical problems from that situation should be studied. If it is desirable to supplement the text in this respect, lists of problems may be collected by the teacher and pupils. It might be profitable to have such lists mimeographed and a copy placed in the hands of each pupil.

It is believed that the work would be improved by exercising more discrimination and evaluation in determining the subject matter which is to be taught. The elimination of some obsolete or obsolescent material has been accomplished. But it may be questioned whether such a topic as "special per cents to be memorized" deserves to be taught and drilled upon. Knowledge of these special per cents is useful only as a device which saves time when one has many problems to solve which involve these per cents. The devices will be acquired by the pupils if they are really useful.

The results of arithmetic teaching should be measured by the best instruments available. At present these are the Curtis Standard Tests. The building principals should assume the responsibility for this work as part of their work of supervision. The Curtis Standard Tests are also valuable for purposes of detailed diagnosis. The weaknesses of backward pupils may be determined and the appropriate remedy applied.

It is also not too much to expect that the principals and teachers attempt the scientific determinations of the best methods and devices of teaching arithmetic.

## CHAPTER XI.

## DRAWING IN THE ELEMENTARY SCHOOL.

Ella V. Dobbs.

## THE COURSE OF STUDY.

DRAWING is taught in all grades of the elementary schools of Leavenworth and has been under the direction of a supervisor for two years. The Applied Arts Drawing Books form the basis of the course, which is planned with reference to the seasons of the year, and includes color work with brush and crayon, pencil sketches, and designs to be applied to handwork projects. The handwork includes paper cutting and folding, weaving and basketry, and construction in paper and cardboard.

The organization falls into three general types of work: First, appreciation of the beauty of line, form and color is sought through the making of sketches of landscapes, fruits, flowers, leaves, and through pose work, object drawing, and all forms of representative art. Second, the relation of art principles to common things is studied through the making and decorating of articles for school and home use, such as booklets, blotters, telephone pads, wastebaskets, table covers, etc. Third, acquaintance with and interest in good pictures is sought through a study of some of the world's great masterpieces, and in making collections of small prints.

A general outline for each grade is prepared for the year. This is supplemented by a specific outline given to the teachers month by month, in which definite projects are suggested and directions given for carrying them out. For example, the outline for the first month for the first grade makes the circle the basis of form study, and directs that the pupils be given circular pieces of cardboard as guides in drawing circles. After they draw around the cardboard, the circle is to be filled in with a colored crayon in imitation of a balloon, an apple, or some other circular object. The organization progresses month by month through the common geometrical figures, as square, triangle, etc., each being applied later to familiar objects.

These monthly outlines also suggest definite projects in construction which embody the art principles studied. One such outline for the upper grades included complete directions and dimensions for making a blotting pad, for which original border designs were to be drawn and applied by the pupils. These monthly outlines aim to provide ample work for classes that work rapidly, and provision is made for omissions by classes which must work slowly. They also tend to keep the work uniform throughout the city, and maintain a fair standard of excellence.

## SPECIAL TEACHERS FOR DRAWING.

In each building arrangements are made for teachers who have special talent or training in art, to teach this subject in several rooms. The supervisor wisely allows ample freedom to all teachers who are able to work independently.

## THE TEACHING OF DRAWING.

School art courses have been strongly influenced by the logical and traditional methods used in art schools where the study is directed toward picture making. The work in Leavenworth shows the effect of these traditional methods, but it also shows a strong tendency to break away from traditions which do not prove themselves well adapted to present needs. The present work compares well with average school art work, and that which is being done is being done well. Both teachers and supervisor seem keenly alive to the importance of the subject, and conditions are ripe for the forward step which will place Leavenworth among the leaders in this field.

Judged from the standpoint of execution alone, the work, as observed by the writer, rises to its highest point in nature sketches and object drawing. Systematic work on the part of the teacher and painstaking effort on the part of the pupil combine to produce results of remarkably uniform excellence in neatness and quality of work. Judged from the standpoint of practical value, the highest point is reached in the work in applied design. Some excellent work was observed by the writer in the Morris School, in which the pupils had designed borders for blotting pads from a leaf motif. Each pupil made his own design and had cut a stencil to aid in its application to the blotter. After the pupils had made some unsuccessful attempts to mix appropriate colors, a specific lesson on color combinations was given. Two color schemes were agreed upon as suitable to the paper from which the blotters were made. The class was divided into two groups. Methods were discussed and definite instructions given for obtaining the desired tones in each color scheme. The entire class gave attention to the instruction in both schemes, and contrasts between the two were noted. Following the theoretical instruction each pupil worked individually upon one of the two schemes discussed. The results promised to be very satisfactory.

Work of this type is to be commended in that it provides a strong motive and scope for initiative through the individual interest of each pupil in reaching a high standard of execution in making something which he values. Answers to the question, "What that you have made have you enjoyed most?" called forth a strong vote for blotter pads. This lesson is to be commended also in that it gave definite help to the children after they had tried to work alone and had discovered their own needs. While sound pedagogy demands that children shall not be told what they can readily discover for themselves, it does not require that they shall be left to rediscover, unaided, all the short cuts known to modern science.

Work of this type, if continued throughout the grades for a period of years, would tend to develop initiative and resourcefulness and would make possible a greater amount of individuality than that described. For example, in classes accustomed to individual effort, a choice in motif as well as design could be encouraged, together with a greater variety in color schemes.

## SCHOOLROOM DECORATIONS.

Interest in the field of picture study is evidenced in an unusually large number of well-chosen copies of good pictures which are to be found on the walls of the Leavenworth schools. In some instances the effect of really fine, large pictures is lowered by an excess of small pictures filling up the background, or by an overdecoration of the blackboard. The blackboard in a schoolroom is designed primarily for the practice work of pupils. Any decoration which takes up needed space is ill advised. And further, blackboard crayons are apt to be strong and crude in color. The decorations made from them are not apt to be of a high grade of art, or calculated to aid in developing a high order of appreciation in the pupils. Those made from prepared stencils are apt to be marked by fanciness rather than beauty.

## BOOKS FOR REFERENCE.

It is suggested that instead of using any one drawing book all drawing work be done on separate paper and that each room be supplied with several good drawing books of suitable grade, and other reference material. This reference material should include at least a good periodical for each building (such as the *School Arts Magazine*). Pupils should be encouraged to bring in additional helps as needed. Instead of following a drawing-book course, the subject matter should grow out of the immediate interests of the school and the home, that the children may feel that beauty is an essential element in daily life—not that art is a desirable but superfluous decoration of things.

## APPLICATIONS.

Daily lesson papers in all school subjects should receive the same care in matters of spacing and neatness that is given to a sketch in the drawing lesson. Letter-writing calls for the exercise of taste and the application of art principles in the choice of paper, the width of margin, and the arrangement of the page. Art principles apply to the making of book covers and illustrations for composition work, to poster illustrations for geography and history, to the case and repair of schoolbooks, and to taste and comfort in classroom conveniences, such as blotters, pencil boxes, and book bags. Too frequently the beautiful things of this type which are made by the pupils are put away in a drawer to be saved for the annual exhibit, while daily needs are supplied by any sort of accessories which the child may happen to possess. The supervisor's influence may be legitimately extended to include these fields which our present common practice tends to separate from the realm of art in the minds of the children.

The art course may profitably include, also, definite study of costume designing and house furnishing, which may be begun in the lower grades in the dressing of dolls and the building of playhouses and lead up to the making in the upper grades of things to be actually worn and used in the home.

Through these and similar projects the art work should take on a very practical turn, and mere drawing occupy a very subordinate place.

School art should seek to make every child familiar with the distinctions between good and bad in these common things. It should be the esthetic element, the note of beauty which enters into and crowns every activity of the day. It should make pupils live more beautifully. Whatever needs to be done should be done in the most beautiful way possible. The study of what constitutes the *most beautiful way* and how to secure the desired result would suggest the topic for the drawing period. The supervisor would then need to spend very little time on preparing the details of a course of study, but a great deal of time studying *what things needed to be done*, and would act as a general adviser in finding the best and most beautiful way to do them.

The trend of modern school art is toward greater emphasis on this practical application, but it can not be accomplished with any degree of success unless art study is bound up, literally entangled in, the things which mean most to the children. The making of kites, the dressing of dolls and the building of a playhouse offer a better point of attack than a logical arrangement of geometric figures or a formal study of primary and secondary colors. The logical organization of these technical principles belongs in the upper grades after a sufficient accumulation of first-hand experience to make them intelligible.

## CHAPTER XII.

## GEOGRAPHY.

Walter S. Monroe.

## THE COURSE OF STUDY.

GEOGRAPHY is taught in the fourth, fifth, sixth and seventh grades. The state texts, King's Primary Geography and Tarr and McMurry's Advanced Book, are used. In addition, a varying amount of supplementary material is used.

The writer was told by some of the teachers in a general meeting that some home geography was taught in the grades below the fourth, but it is not mentioned in the course of study nor is it given in the teachers' own reports on the disposition of their time. Hence it must be of a very incidental type and not significant as to quantity.

The order of the course of study follows that of the texts, except that Part IV of Tarr and McMurry's Advanced Book is made to follow Part V. The aim and scope of the work of the fourth grade is described in the printed course of study as follows:

- AIM 1. *To teach the child to observe by observing.*  
2. *To teach the child to read maps and pictures.*

1. Geography looked at from the teacher's point of view may be divided into the following kinds:

(a) *Observational Geography*, relating to land forms, water forms, atmospheric forms, life forms.

(b) *Representative Geography*, relating to maps, graphs, and pictures.

(c) *Rational Geography*, relating to movements of the earth and results, movements of water and results, movements of life and results.

2. Geography in the fourth grade should, of course, be largely (a) and (b). (a) should be taught almost entirely outdoors, with constant reviews in class work indoors.

King's Primary Geography is the basis for the work of this grade. Part 1, 10 pages, is called "Home Geography by Observation," but it presents a very inadequate treatment of the topic. Following this we find the usual order of topics—"The Earth as a Whole," "North America," etc. There is nothing in the printed course of study to show that this order is not followed in the teaching of geography.

An unusual number of geographical readers and other reference books were reported by many teachers. A number of such books were in evidence in a few classrooms and some were observed in use. On the other hand, a few teachers reported practically no books suitable for children to read.

## ILLUSTRATIVE MATERIAL.

The illustrative material in evidence likewise varied. In some rooms a marvelous amount of material had been collected to illustrate topics. In other rooms there was practically no illustrative material except the usual maps. Much of this material was excellent, but some of it could



contribute but little to the work of the class if the supplementary books were used intelligently. For example, a number of charts had been made of pictures cut from old geography texts. These are very apt to be inferior to the pictures of the present text. The principal value which could come from such material would grow out of the actual work of collecting the pictures; hence it will be of little value to any class but the one which constructed it.

Much of the illustrative material has been planned and prepared by the teacher with little assistance from the pupils. The finished character of the material shows this to be true, and teachers said this was the case. By such action the pupils have been deprived of the opportunity for exhibiting initiative, for planning and doing something which has a tangible material form. Teachers in other schools have secured excellent results by keeping in the background and allowing the pupils to do the bulk of the planning and the work. It is true that they got a more crude product, but it is believed that the educational value to the pupils was much greater.

#### THE MODES OF TEACHING GEOGRAPHY.

1. *Question and answer.* In response to a question or request for specific information, it is given by the pupil called upon. Some of the teachers appear to use this mode of teaching almost exclusively, and a few have become rather expert in doing it.

2. *Semi-lecture.* The teacher does most of the talking, interspersing her talk with a few questions. Illustrative material is often used in this type of teaching.

3. *Extended recitations by pupils.* A pupil, when called upon, talks upon one or more phases of the general topic which has been assigned for the day. The pupil chooses the particular topic upon which he or she talks. One seventh-grade pupil was observed to talk for five minutes. The teacher talks very little; in fact, is quite completely in the background.

At times these talks are illustrated by pictures brought from home by the pupils. One teacher said, in describing a lesson on the Grand Canyon of Colorado: "The children were asked to bring pictures of rock, rivers, or scenes in Colorado near this river or of the canyon. The next day each child had either received information from other persons at home or had pictures of the canyon or surrounding places. As most of the pictures were on postal cards, or even smaller, the class was taken to another room and these pictures were shown to them by means of the reflectoscope. Each picture was explained by either a pupil or myself."

Each of these modes of teaching has its particular function in the process of teaching, and a number of characteristics of excellent teaching were observed in the use of these modes by the teachers; for example, the successful relegation of the teacher to the background in the case of "extended recitations by pupils," and the spirited and thorough testing of the pupils by questions and answers. The most animated work observed was furnished by a recitation of the latter type. But one gets the impression that the teachers were not discriminating in their use of these modes. A few appeared to be using one mode to almost a total exclusion of the others.

## MOTIVE.

In the case of "extended recitations by pupils," one class was observed in which approximately half of the number were plainly inattentive. This was caused in part by the fact that all had been given the same general assignment, and thus the recitation of any pupil could not have a deep, vital interest to the other members of the class. Also, this condition probably was partly due to the monotony of this mode of teaching when used exclusively.

In some cases the attention of the pupils to the subject matter of geography is based upon real motives, but for the great majority of recitations the appeal is made to artificial incentives, though usually of the higher types. This motivation of the work in geography could be improved by (1) a more discriminating use of the modes of teaching; (2) more reports by pupils upon topics not assigned to other members of the class. In so far as possible these should be of the pupil's own choosing.

A class was observed in which a large per cent of the children were of foreign descent, and the teacher said one was foreign-born. The class was studying Europe, and the teacher could profitably make use of this condition. It is probable that the pupils of foreign descent possessed knowledge, or could obtain it in their homes, of certain of the countries of Europe, and would have a real motive for contributing this to the class. Certainly they would have a vital interest in reading about the home of their ancestors.

## THE PUPILS' KNOWLEDGE OF GEOGRAPHY.

The pupils' knowledge of geography could be judged only on the basis of the classes observed. Some classes showed a *good* knowledge of geographical facts, other classes only a fair knowledge. In general, the best knowledge was exhibited by those classes which had been confined to mere factual subject matter, such as location and bounding of states. In some instances, where review questions were asked, a number of pupils made a poor showing. This suggests that in these cases the subject matter had been learned only for the time being and that there were not well-defined ideas back of the words. It seemed that adequate provision was made for drill if the subject matter was properly understood when it was gone over.

In conclusion it may be said that there are evident attempts to place the instruction in geography on the higher plane. However, much of the instruction is on the lower plane.

## RECOMMENDATIONS.

The course of study will be improved by the exercise of more discrimination in the selection of the subject matter, and particularly in the relative emphasis. The writer believes that the bounding of states, rivers, lakes, capes, etc., has an important place in geography, but in the past this has often been almost the whole of the subject. In some of the classes visited the writer believes too much relative emphasis was being given to this type of subject matter, and too little emphasis to the

human aspects of the country, the occupations, the child-life, the industries, etc.

Perhaps some incidental study of local and state geography is made in the primary grades, but evidently it has not been given a place in the printed course of study and is not considered a subject by the teachers. It is recommended that more prominence be given to local and state geography in the early part of the course. Leavenworth is particularly rich in local geographical material, because of its geographical position and its varied industries and cosmopolitan population. In view of this, more than usual emphasis upon local geography might be justified.

Only a limited use appears to be made of type studies, and the work would be improved by more of such studies. Such studies possess several advantages. As a result of an intensive study the subject matter becomes more real to the pupils, thus increasing the interest in the work. Because of the intensive study, the subject matter is remembered better.



SURVEY OF PUBLIC SCHOOLS, LEAVENWORTH, KAN. 97

GRADE III.

SCHOOL.	No. of cases.	Quality.														Av.	A. D.	Var.	
		4	5	6	7	8	9	10	11	12	13	14	15	16					
Cleveland.....	3					1	1	1											
Franklin.....	14			2	2	4	5	1											
Jefferson.....	30				8	11	9		2								8.23	.77	9.4
Lincoln.....	13			2	10	1													
Maplewood..	37			2	13	13	6	2	1								7.89	1.00	12.7
Morris.....	25				10	6	5	3	1								8.16	.96	11.8
Oak St.....	30			8	11	6	5										7.27	.80	11.0
Sumner.....	23				1	5	6	7	4								9.35	.86	10.3
Third Ave....	21			1	6	6	6		1	1							8.24	1.00	12.1
Total.....	196			15	61	53	43	14	9	1							8.03	.98	12.2

GRADE IV.

SCHOOL.	No. of cases.	Quality.														Av.	A. D.	Var.	
		4	5	6	7	8	9	10	11	12	13	14	15	16					
Cleveland.....	3									3									
Franklin.....	12				1	3	4	1	2	1									
Jefferson.....	26						6	12	5	3							9.19	.65	7.1
Lincoln.....	21				3	6	9	1	2								8.67	.95	11.0
Maplewood..	30				7	7	8	4	2	2							7.67	1.23	16.0
Morris.....	23			1	12	7	2			1							7.65	.74	9.7
Oak St.....	34		1		2	10	12	7	2	2							8.82	1.09	12.4
Sumner.....	28					3	7	5	8	2	2	1					10.32	1.25	12.1
Third Ave....	23			1	3	5	10		3	1							8.78	1.22	13.8
Wilson.....	5					1	1	1	2										
Total.....	205		1	3	30	49	62	25	26	6	2	1					8.93	1.32	14.78

GRADE V.

SCHOOL.	No. of cases.	Quality.														Av.	A. D.	Var.		
		4	5	6	7	8	9	10	11	12	13	14	15	16						
Cleveland.....	4							1		1		1	1							
Franklin.....	11				3	3	2	2	1									8.55	10.9	11.6
Lincoln.....	13				1	5	4	1	1	1										
Maplewood..	39		1		3	9	14	6	3	3							9.05	1.03	10.3	
Morris.....	42				3	15	15	3	2	3	1						8.95	1.12	12.5	
Oak St.....	37				6	10	14	4	3								8.68	1.00	12.4	
Sumner.....	19					4	7	3	4	1							9.53	.95	9.9	
Third Ave....	54				4	10	14	10	12	2	1	1					9.57	1.24	13.6	
Total.....	219		1		20	56	71	29	27	11	3	1					9.15	1.06	11.6	

GRADE VI.

SCHOOL.	No. of cases.	Quality.														Av.	A. D.	Var.		
		4	5	6	7	8	9	10	11	12	13	14	15	16						
Franklin.....	16					1	6	4	3	1		1	1					10.00	1.00	10.0
Lincoln.....	11						5	1	4	1										
Maplewood..	40						1	16	8	7	7			1				10.18	1.28	12.2
Morris.....	60						9	31	9	8	3							9.42	.72	7.6
Oak St.....	35				5	6	14	7	2	1								8.97	1.23	13.7
Sumner.....	14					1	4	2	7											
Third Ave....	32				1	5	10	6	6	1	1			1	1			9.97	1.41	14.1
Total.....	208				6	23	86	37	37	14	2	1	1	1	1			9.69	1.03	10.6

## GRADE VII.

SCHOOL.	No. of cases.	Quality.														Av.	A. D.	Var.		
		4	5	6	7	8	9	10	11	12	13	14	15	16						
Lincoln .....	11						5	1	4	1								10.87	1.49	13.7
Morris .....	55					2	13	8	10	13	7	2						10.13	.88	8.7
Oak St. ....	64					5	14	24	12	7	2							10.23	1.07	10.5
Sumner .....	10							3	6	1										
Third Ave. ....	60					4	17	14	15	6	4							10.40	1.11	10.7
Total .....	200					11	49	50	47	28	13	2								

## GRADE VIII.

SCHOOL.	No. of cases.	Quality.														Av.	A. D.	Var.		
		4	5	6	7	8	9	10	11	12	13	14	15	16						
Lincoln .....	7							2	4		1							10.40	1.11	10.7
Oak St. ....	39					8	7	8	9	5	1	1						10.08	1.26	12.6
Morris .....	22					3	4	4	4	5	1	1						10.68	1.41	13.2
Sumner .....	5								2	1	1	1								
Third Ave. ....	75					1	20	22	24	7	1							10.25	1.84	18.9
Total .....	148					12	31	36	43	18	5	3						10.34	1.08	10.5

Table XXV is a condensed statement of the quality of the handwriting of the system of grades and buildings.

For instance, the first item in Table XXV reads thus: In the second grade in the Cleveland School five samples were collected. Two of these are graded 7, one is graded 9, and two are graded 10, on the Thorndike scale. The second item reads thus: In the second grade of the Franklin School 20 samples were collected. Of these one is graded 5, three 6, eight 7, six 8, and two 9. The average for this grade is 7.25, the average deviation .75, and the variability 10.3 per cent.

In computing the central tendencies and the variability the Curtis Manual is followed. Where there were less than 15 samples presented from one class the average is not calculated. The individual error in grading is about 3 per cent. For instance, the Franklin second-grade average is 7.25. But when the graders grade these a second time they will vary inside 3 per cent. They may be  $1\frac{1}{2}$  per cent above or  $1\frac{1}{2}$  per cent below.  $1\frac{1}{2}$  per cent of 7.25 is .11, so the average of the grade lies between 7.25 and .11 and 7.25, or between 7.36 and 7.14. This means that in estimating the Maplewood and Morris second grades, one of which is 7.70 and the other 7.65, they should be judged as approximately equal in quality because of the probability of individual error in grading.

Bearing this in mind, it will be noted that there is practically no change in quality between the seventh and eighth grades. It will be observed, also, that there are a few classes conspicuously above or below the average. The Sumner fourth grade is the most conspicuous deviation, since the children stand in quality almost at the seventh- and eighth-grade averages.

There is a noticeable variation between the best and poorest classes in

each grade. For instance, in the Sumner third grade the average is 9.35, while in the Maplewood third grade the average is only 7.89, and in the Sumner fourth grade the average is 10.32, while in the Morris School the average for the fourth grade is 7.65. Similar extremes will be found in each grade.

In selecting the kind of handwriting to judge, the simplest case was taken—that of best handwriting. No attention was paid to speed. The object was to discover how well the children had learned to form the letters.

TABLE XXVI.

*A condensed statement of totals for the Leavenworth Schools by grades.*

GRADE.	Average.	Average deviation.	Variability.	Number of samples.
II.....	7.67	.77	10.0%	173
III.....	8.03	.98	12.2%	191
IV.....	8.93	1.32	14.7%	205
V.....	9.15	1.06	11.6%	219
VI.....	9.69	1.03	10.6%	208
VII.....	10.40	1.11	10.7%	200
VIII.....	10.34	1.09	10.5%	148

TABLE XXVII.

*A condensed statement of totals for five Missouri cities of about 10,000 population.*

(These are midyear samples collected between February 1 and February 15, 1914.)

GRADE.	Average.	Average deviation.	Variability.	Number of samples.
II.....	7.70	1.3	16%	387
III.....	8.43	1.5	17%	333
IV.....	9.22	1.6	17%	468
V.....	9.44	1.3	14%	337
VI.....	9.82	1.3	13%	306
VII.....	10.62	1.3	12%	328
VIII.....	10.72	1.1	9%	197

Table XXVII was not prepared by the same graders as were Tables XXV and XXVI, and we do not know accurately how great individual error may arise because of this. But our opinion is that we are justified in saying that the handwriting of the Leavenworth school children is not conspicuously better nor conspicuously worse than that of the children in the Missouri systems studied.

It should be noted, again, however, that within the system the grading was done by the same individuals, and that, as said above, the individual error is not greater than 3 per cent.

## RECOMMENDATIONS.

Only one recommendation is to be made. The supervisory force should investigate classes conspicuous for good or for poor writing to ascertain the cause of each. In all probability in the high-grade classes devices are used which should be made known to all the teachers in the system, and particularly to those which have conspicuously low class averages.



## CHAPTER XIV. HISTORY AND CIVICS.

Walter R. Smith.

### THE COURSE OF STUDY.

THE study of history in the grades is begun with the reading of Gordy's Beginnings of American History in Europe in the seventh grade. The aim is to correlate it with literature and reading. In addition to the above, there is outlined for the last two months of the seventh grade: Geography, history and government of Kansas; books—Tarr and McMurry's Advanced Geography, Supplement on Kansas; Arnold's Civics and Citizenship, Local and State Government, pages 1-153. About fifty to ninety minutes per day for two months is divided between three studies of Kansas—geography, civics, and history—which, if divided equally, would mean about thirteen recitations on Kansas history based upon the above outline. In the eighth grade history and citizenship is made one of the four major studies. Foster's History of the United States and Arnold's Civics and Citizenship are used as texts.

Unfortunately the grade teacher in Kansas is bound down to a state text which she is expected to teach. This is not the fault of the Leavenworth teachers; it is their misfortune. The history is a fairly good compilation, but is not discriminating and inspiring. Facts and events are doled out with a measuring vessel rather than organized "around great central facts bearing directly on the destiny of our country," as demanded, rightfully, for seventh-grade work.

For this reason it is hard for the most earnest teacher to break away from the traditional equivalence of historical facts. It is greatly to be desired—in fact it is necessary—if history is to retain its importance in the curriculum, that it be brought up to date. Ancient, irrelevant and unimportant facts and events must be relegated to the junk pile along with antiquated machinery, curio museums, and ornamental offices and titles. The past must be linked to the present, and historical study must be made to center about present problems. If colonial history is important, the history of the present Mexican imbroglio or the initiative and referendum or the political advancement of woman is no less so, and history must establish its right to remain in the curriculum by proving its everyday connection with the life of the boy and the girl.

### CLASSROOM WORK.

In regard to the actual teaching of history, it may be said that every history teacher in the grades showed earnestness, careful preparation, good control of the pupils, and a sufficient knowledge of the subject. Three of them were principals and the others showed virile personalities. All were trained and experienced teachers. Most of them were able to get results—the results aimed at. Any great improvement, therefore, must come from a revision in the point of view or aim of history teaching.

Most of the pupils were interested. They were getting the facts that would enable them to pass a good examination on the text. So far as knowing the traditional amount of history is concerned, they would not be found wanting. Not only that, but in addition they were getting good training along certain lines. Every teacher asked topical questions. Few of the categorical queries frequently propounded were heard. Pupils were required to talk to a subject, and many of them did it well.

Also, every teacher showed some resourcefulness in getting together supplementary materials. Maps, charts, pictures, etc., were plentiful. Many pupils showed they were doing supplementary reading, and they were allowed to use this material freely. Some teachers, however, did not seem to stimulate this sort of work as much as good teaching demands. Also, some teachers failed to show skill in using materials at hand. For instance, one teacher showed a series of illustrative pictures to a class of about fifteen pupils. They were well explained, and interesting things said about them, but they were held before the class in such a way that only about five of the fifteen could see them, and by the time they were well started down the line for inspection a new explanation was being given, and most of the pupils had lost both connection and interest. Commendable preparation was thus lost in poor teaching technique, and the lesson thereby rendered perfunctory. There was likewise in some cases a tendency to outline the subject to death. An outline is a logical contrivance that may have good or bad effects upon youthful students. It is especially valuable for review work; but too much mechanism not only destroys interest, it blights thinking. One teacher placed an elaborate outline of the text on the board, quite suggestive to a mature person, and required it to be copied. Next day the pupils used these outlines in their open notebooks before them, and were called upon to recite upon topic 1, topic 2, and so on. The result was inevitable. A study that ought to arouse interest and enthusiasm was dulled, and a bright, conscientious and hard-working teacher was burying her subject in mechanical routine. With the same ability, patience and effort directed toward a better end, live problems treated historically, this teacher would have a wide-awake class, getting an idea of the intense human interest bound up with past life, and forming habits of historical investigation that would later function repeatedly in citizenship.

#### LACK OF SOCIAL GROUP WORK.

One other point needs mention. Every teacher asked topical questions, and generally discriminating ones, but the pupils recited to the teacher. And in most cases it was an individual recitation. Few teachers showed enough effort to make the topic social; that is, to hold every pupil responsible for thinking of the topic under discussion. This individual recitation was doubtless made necessary by the large number of topics discussed. But that is the difficulty. The number ought to be reduced by eliminating the minor ones. The best result of history teaching lies in developing thinking ability, judgment. This can not be done by moving rapidly over a succession of topics. The subject discussed should be a class subject, with all pupils ready, and, if possible, anxious

to contribute. This calls for cross-questioning, too little of which was observable.

Cultivation of thinking habits and evaluative judgment depends upon concentrating all the force of the mind on a specific topic and holding it there as long as possible. Instead of doing this some teachers were observed to explain a pupil's difficulty as soon as it appeared, when the class might well have worked it out together, thus conserving attention and stimulating initiative.

Tested by the five points used by the Staff in judging the effects of teaching upon the pupils, it may be stated that three and five, *i. e.*, *organization* and *acquisition*, were quite up to or above standard. Training in *evaluation* was made difficult by following too definitely an undiscriminating text. *Initiative* was also stifled for that reason, but could be developed by emphasizing more fully current events studied critically—not recited incidentally—and a freer use of supplementary topical study and class discussions. Scientific effort at motivation was too generally lacking, and strong personal leadership was necessary to maintain interest in subject matter which too few of the pupils could connect with everyday living.

#### RECOMMENDATIONS.

1. The curriculum needs revision with the idea of eliminating useless materials and emphasizing dominating events. An interesting and important topic should be given plenty of time at the expense of omitting much material now taught.

2. The amount of colonial history taught should be reduced one-half at least, and the time thus gained be spent on the very recent past.

3. The textbook should be made merely a guide, and the teachers should work with the pupils in studying history rather than in having them recite history.

4. Current events should be studied as a part of history work, not recited incidentally. Present-day problems should be introduced on the most suggestive occasions, traced to their historical beginning, and studied at the psychological time, regardless of the historical period placed in the school program.

5. Whenever possible, a question should be made a class topic, and a pupil's recitation should be not only to the teacher but to the class as a social group.

6. The teachers should work out a better point of view by wider historical reading and study, rather than put more specific effort and mechanical preparation into their lessons.

#### CIVICS.

As before mentioned, the study of civics is begun during the last two months of the seventh year. The first one hundred and fifty pages of Miss Arnold's Civics and Citizenship are studied in connection with the geography and history of Kansas. This is a study of local and state government, and only one class was visited. This was a well-conducted class by a superb drillmaster, and from the standpoint approached was above criticism. There appeared to the writer, however, to be a little

overstressing of pure memory work, and too little evidence of class research and visitation to local institutions. The teacher was quite evidently instructing the class rather than leading it in civics study.

In the eighth grade the national government is taken up when the history class reaches the constitutional convention of 1787. The remaining part of Arnold's Civics and Citizenship is used as a text. The date of the Survey permitted the observation of only one class. This showed the same excellent drill on subjects sometimes too far removed from the interests of most of the pupils. Some of the old tendency to teach constitutional law rather than actual government appeared, although an effort to stimulate political reading was evident. The only suggestion the writer can offer is that a constant effort be made to build upon what the child is interested in and knows. This necessitates a concrete study of local civic affairs, a careful study of current events in relation to general governmental problems, and the placing of stress upon actual government rather than constitutional interpretation.

## CHAPTER XV.

## HOUSEHOLD ARTS.

Ella Y. Dobbs.

## THE COURSE OF STUDY.

BEGINNING with the fifth grade, handwork for girls in the Leavenworth Public Schools deals with problems in household arts. Eighty minutes per week are devoted to this subject.

In the fifth and sixth grades sewing is taught by the regular grade teacher under the direction of the supervisor of household arts. The first work consists in the making of conveniences for sewing, including needle-case, pincushion, and bag to hold work, on which the elementary stitches are learned. These stitches are applied later to articles of wearing apparel, each girl making a complete suit of underwear for herself. In fifth grades working alone, the practice may be applied to the dressing of dolls.

In the seventh and eighth grades the work is directly in charge of the special teachers, and the classes are held in the High School. In the seventh grade a cooking outfit consisting of apron, towels, holders, etc., is made. This is followed by a princess slip or simple dress. Some study and discussion of the textile materials and their values, cost and care accompanies the lessons in sewing. The making of individual garments and articles to be used later by the maker furnishes a motive usually strong enough to hold the interest of the worker. There is considerable scope for individuality in the choice of color, style and minor details of the problem.

In the eighth grade cooking is begun. The aim of the course is to give the students an insight into the broad underlying principles of house-keeping, and an acquaintance with the preparation and food value of some common food materials. The points to be emphasized include such practical problems as the making of fires, a study of the mechanism of the stove and the regulation of drafts, and the regulation of fuel gas. Much emphasis is placed upon sanitation. Order and cleanliness in such everyday problems as the washing of dishes and dish towels and the care of kitchen sink and garbage can receive daily attention.

Lessons in cookery offer exceptional opportunity for training in habits of promptness and system, since each lesson, with a few exceptions, is a complete unit. In the eighty minutes allowed to the lesson each pupil must receive instruction in the lesson for the day, select her materials, prepare and cook the dish assigned to her, wash her utensils and return them to their proper places, and leave the laboratory in perfect order for the next class. Some pupils, undoubtedly, receive their first suggestions of systematic housekeeping in the school laboratory.

The study of food materials and their values includes a study of the chemical changes caused by cooking and a comparison of the relative values of various ways of preparing common foods; as, for example,

hard- and soft-boiled and fried eggs. The purpose is to give each worker some definite principles upon which to work, that she may not guess at methods and happen upon success or failure, but work with intelligence and certainty. The time to be devoted to the subject in school is insufficient to give the practice necessary to develop skill in any department. All that can be expected of such a course is that it shall suggest right methods of procedure which may be practiced in the home, and in this the course, as given in Leavenworth, seems to be very successful. To what extent this practice is carried on in the home, the teacher can judge only by the general attitude of the pupil and by occasional reports from parents. If some satisfactory plan of coöperation between home and school could be worked out, it would, without doubt, greatly increase the efficiency of both factors. In various parts of the country this problem is receiving attention and helpful suggestions are coming from many quarters.

#### RECOMMENDATIONS.

The writer suggests, also, a closer correlation between the departments of drawing and domestic art. One of the most urgent needs of the present times is definite instruction in costume design. Girls need to be taught not only how to make their own clothes well, but also how to select tasteful and becoming styles. They need some better basis for selection than the whims and fads of fashion. If such instruction is to be of general benefit, it must be given in the upper grades of the elementary school, since so many pupils drop out before they reach the High School.

There is definite need of the same kind of instruction in the application of art to house-furnishing, that the rising generation may appreciate that the poor home need not be bare and ugly, nor the rich home overcrowded with ostentatious display. The furnishing of a miniature house offers a valuable problem for both art and handwork, and one in which enthusiasm is sure to run high. Every opportunity for satisfying real needs in a suitable and beautiful way should be turned to account. For example, the furnishing of a rest room or a social room, the making of draperies or of other needs for the school office, furnish real problems of vital interest.

The writer finds little to criticize and much to commend in the work in household arts, and the suggestions here offered point to extension rather than modification of the work being done. The courses are well organized in line with the approved practice of the day and are all well carried out, so far as it is possible to judge from a brief observation.

## CHAPTER XVI.

## HYGIENE AND MEDICAL INSPECTION.

Water R. Smith.

## THE TEACHING OF HYGIENE.

PHYSIOLOGY, like the other sciences, had gradually to force its way down through the school curriculum from the universities. The result was, as in the case of the other sciences, that during its early public-school stages it was burdened with technical details and a scientific nomenclature that removed it from active influence in the thinking of the boy and girl.

The early physiology was almost purely scientific. It came from the universities and the preparatory studies of a medical course. First it was concerned chiefly with the anatomy of the human body. Then it dealt largely with the chemistry of organic action. Gradually hygiene was introduced. It was a mere incident, however, in the study most of us were put through. We studied the bones and muscles and the circulatory and nervous systems for information. But recent changes have demanded that the hygiene of the human system be made the important part of the study. The names of the bones and nerves and the nature of the circulation and the digestive process are subordinated to the teaching of what to do in case of an injury, how to prevent the spread of infection, and how to eat and to live in order to preserve organic efficiency. Physiology and anatomy are used only as a basis for teaching the art of preserving health and building up strength.

In Leavenworth the transition is complete and the newer point of view prevails. The primary aim is as it should be—to teach health rather than to instill scientific knowledge. But in making this transition, hygiene and physiology have been dropped from the list of real studies. They have become merely “incidental minors”; and while better results are obtained than with the old scientific physiology, it is quite plain that this subordination lowers the standard of work that might be done. The writer believes that at some point in the grades room should be made in the curriculum for hygiene as a “major” study. Its importance in the scheme of life makes it worthy of special emphasis. Without the inspiration of medical examinations or of a nurse, however, it is evident that in most cases, with all the other specific demands upon a teacher, hygiene would receive very incidental attention. This is true not merely in Leavenworth; it is true under similar circumstances everywhere, and must so remain until the health work of the schools is put upon an organized basis.

## CLASSROOM WORK.

The regular study of physiology and hygiene is taken up as science reading at the middle of the seventh year. Krohn and Crumbine's Graded Lessons in Physiology and Hygiene is used as a text, and supplementary reading is added. Two twenty-five-minute periods per week during the second half of the seventh year and all of the eighth year are

given to the study. In the recitations visited the text was read aloud, without preparation, paragraph by paragraph. After the reading some pupil was asked to summarize the material of the paragraph. Then followed questions and general discussion. The pupils came to the text, which is an excellent one, with open and unsated minds, and were interested in the reading. Teachers were working with the pupils rather than for them. By this free-and-easy method discussions of health and sanitary matters were stimulated. Occasional reviews are given, one of which was observed. In this the pupils showed not only real interest in the subject but knowledge of it.

This class and social study led the pupil and teacher to get together in more effective team work than in the set recitation. In many ways the best teaching the writer observed in the whole system was in these classes. Shortened periods and lack of provision for outside preparation, however, necessarily prevented problem study or extended laboratory work. Yet as a whole it may be stated that the evil effect of subordinating the study of hygiene to less fundamentally important ones like formal arithmetic and technical grammar was minimized, if not nullified, by the excellence of the pupil-teacher team work and the generally effective teaching found.

#### MEDICAL INSPECTION.

While the work in physiology and hygiene given was properly directed towards a study of health and its requirements, there was a complete omission of any effort at medical inspection.\* This was not due to any lack of vision on the part of the school authorities. Its need was recognized by the superintendent and principals and its adoption recommended. But as in many other cities, the board was slow to act and the community indifferent or hostile.

This indifferent or hostile public attitude, which is not peculiar to Leavenworth, makes it worth while to discuss briefly the general proposition of medical work in the schools.

While medical inspection of school children is new in the United States, it has passed beyond the experimental stage. It is "a movement national in scope in England, France, Germany, Norway, Sweden, Austria, Switzerland, Belgium, Japan, Australia and Tasmania. It is found in the more important cities in Denmark, Russia, Bulgaria, Egypt, Canada, Mexico, the Argentine Republic and Chili. In the United States regularly organized systems are in force [1911] in nearly one-half of the cities [443], while a beginning has been made in nearly three-fourths of them."<sup>1</sup>

Dental inspection is carried on in nearly 200 cities, and 102 cities employ school nurses. Medical inspection laws have been passed in twenty states. The movement in this country started in Boston just twenty years ago, although it was then half a century old in European

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\* This statement should be qualified as follows: On entrance to the schools the parents of the child are required to fill out a blank stating whether or not the child has defective sight, hearing, throat and teeth. This information is filed, and when defects are remedied a note is made of it.

1. Gulick and Ayers, *Medical Inspection of Schools*. Published by Russell Sage Foundation, 1913.



states. No other educational movement has ever spread so rapidly or justified itself more fully.

The argument for medical inspection is definite and conclusive. The case is summed up by Dr. A. H. Hogarth, an English specialist, from the standpoint of the state, the school and the child:<sup>2</sup>

ADVANTAGES TO THE STATE.

“The state requires a physical census of the children for the discovery of unrecognized defects, partly with a view to the improvement of the national physique, and partly with a view to the preparation of all children for school life. It is also a national duty to arrange for the classification of children according to their mental capacities, and to adapt the educational system to the requirements of the several groups of children, in order to diminish the present economic wastage of misdirected educational efforts.”

Messrs. Gulick and Ayers present the following pertinent statements regarding the case for the state:

“The jurisdiction of the state in assuming the function of education and in making that education compulsory is to insure its own preservation and efficiency. . . . But the well-being of a state is as much dependent upon the strength, health and productive capacity of its members as it is upon their knowledge and intelligence. In order that it may insure the efficiency of its citizens, the state through its compulsory education enactments requires its youth to pursue certain studies which experience has proved necessary to secure efficiency. Individual efficiency, however, rests not alone upon education or intelligence, but is equally dependent on physical health and vigor. Hence if the state may make mandatory training in intelligence, it may also command training to secure physical soundness and capacity.”

ADVANTAGES TO THE SCHOOL.

“It is the duty of the local authorities to protect the individual against communicable diseases in school, to supervise school buildings, and to secure healthy surroundings for the school child.”

Gulick and Ayers state in addition:

“Teachers and parents are beginning to realize that the problem of the pupil with defective eyesight may be quite as important to the community as that of the pupil who has some contagious disease. A child who is unable to see distinctly is placed in a school where physical defects are unrecognized and disregarded; headaches, eyestrain and failure follow all his efforts at study. . . . Neither he nor his teacher knows what is the matter, but he soon finds it impossible to keep pace with his companions, and becoming discouraged, he falls behind in the unequal race.

“In no better plight is the child suffering from enlarged tonsils and adenoids, which prevent proper nasal breathing and compel him to keep his mouth open in order to breathe. Perhaps one of his troubles is deafness. . . . Public schools are a public trust. When a parent delivers his child to their care he has a right to insist that the child under the supervision of the school authorities shall be safe from harm and shall be handed back to him in at least as good condition as when it entered school.”

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2. Medical Inspection of Schools, p. 78.

## ADVANTAGES TO THE CHILD.

"Owing to ignorance, neglect, or apathy on the part of parents, it becomes a requirement of the merest humanity to bring medical aid and special educational methods within the reach of the individual child."

To which may be added from Gulick and Ayers:

"The child himself has a right to claim protection. The child has a claim upon the state and the state a claim upon the child which demands recognition. Education without health is useless. It would be better to sacrifice the education if, in order to attain it, the child must lay down his good health as the price. Education must comprehend the whole man, and the whole man is built fundamentally on what he is physically."

Also:

"Communities are seeing the whole matter in a new light. Gradually they are beginning to ask, not whether they can afford to take steps to safeguard in schools the welfare of their children, but whether they can afford not to take such steps. The realization is dawning that it is un-businesslike to count carefully the cost of the school physician, but to disregard the cost of death and disease, of wrecked hopes and dependent families."

Additional facts are brought out, to show the need of medical inspection, by Dr. Louis W. Raper in a conservative statement of national and school health losses in the United States each year. According to his analysis, based upon excellent authorities, 670,000 persons die each year of reasonably preventable diseases, entailing an economic loss of over a billion dollars. There are constantly about 3,000,000 persons seriously ill in the United States, largely of preventable diseases, causing an economic loss of another billion dollars. A very large number of other persons suffer from minor ailments which lower their efficiency and cause absence from work, which makes a further very large economic loss.

The school health losses are also shown to be appalling. Sixty-five thousand school children die each year, at least 40,000 of reasonably preventable diseases. In addition, ill health and physical defects function largely in causing about 15 per cent of the eliminations, 16 per cent of nonpromotions and 17 per cent of retardations of the school children.

## DISEASES AMONG SCHOOL CHILDREN.

Another phase of the problem appears when we examine the figures showing the actual presence of diseased conditions among school children. The English inspectors report that 80 per cent are suffering from defective teeth, 50 per cent are affected with vermin or other parasitic conditions, 20 per cent have defective vision, and 10 per cent are retarded in their educational progress by physical defects such as anemia, general debility, and deafness resulting from adenoid growths or discharging ears. Doctors Gulick and Ayers estimate that for the United States, in the average city school system, about 65 per cent of the children have physical defects serious enough to warrant treatment by a physician, oculist or dentist. Nearly 85 per cent of all these defects are those of teeth, throat, eyes and nose.

Taking the most serious of these defects—that of sight—the examination of hundreds of thousands of school children has shown that from one-

tenth to one-fourth suffer from defective vision serious enough to interfere with efficient work and permanently to injure their eyes. Defects of hearing are almost as serious. And "most important of all, *only a small minority of these defects of sight and hearing are discovered by teachers or known to them, to the parents or to the children themselves.*"

Another fact to be borne in mind is that these defects are not confined to the children of the poor. They are almost equally numerous among children of well-to-do parents. And in medical inspection where follow-up methods are used in addition to notification of parents, the percentage of treatments obtained is as great among the poor as among other classes. Mere notification secures treatment in 11 to 50 per cent of the cases, while follow-up methods frequently secure treatment in 75 per cent of the cases. In England treatment is secured in 20 to 70 per cent of the cases, averaging about 50 per cent.

#### THE SCHOOL NURSE.

The follow-up methods can be used effectively only where the board employs a school nurse. Her duties do not end with the schoolroom; they merely begin there. The case for the school nurse has been well summed up as follows (Gulick and Ayers Medical Inspection of Schools):

"She is the teacher of the parents, the pupils, the teachers and the family in applied practical hygiene. Her work prevents loss of time on the part of the pupils and vastly reduces the number of exclusions for contagious diseases. She cures minor ailments in the school and clinic and furnishes efficient aid in emergencies. She gives practical demonstrations in the home of required treatments, often discovering there the source of the trouble, which, if not discovered, would render useless the work of the medical inspector in the school. The school nurse is the most efficient possible link between the school and the home. Her work is immensely important in its direct results and far-reaching in its indirect influences. Among foreign populations she is a very potent force for Americanization."

It is not to be supposed that any sort of medical program can eliminate all the needless losses from death and ill health; nor is it to be expected that any sort of medical inspection or hygienic development will prevent all the illness and death losses among school children. The enormity of the problem, however, should not deter us from making an effort. Germany and Sweden have succeeded in decreasing these losses much below our own. England has organized her efforts to build up the general health scientifically. Every civilized nation is attacking the problem.

In the United States three-fourths of our cities (722 in 1911) are realizing the seriousness of the problem and the greatness of the opportunity for the schools, by making at least a beginning in medical inspection. Leavenworth can not afford to lag behind. The need is not less than elsewhere, nor the poverty of resources greater. A beginning should be made next year.

#### POSSIBILITIES IN LEAVENWORTH.

After canvassing the local situation, there appear to be four possible methods of approach: free medical inspection, the employment of a part-time or all-time physician, the nurse-alone plan, or a combination.

In regard to the first it may be stated that a few years ago a proposition was made by the local medical society to examine all pupils free of charge. It was not organized, however, and there was enough general opposition to lead the Board of Education to neglect or refuse the offer. Such an arrangement could probably still be made. Inquiries among physicians indicated that they would gladly undertake it.

Free inspection, however, can never go far. Moreover, it has several dangers that need to be carefully safeguarded. Inexperience and inefficiency in the particular sort of work required, professional jealousy and selfishness, parental objections, and the question of free treatments, have sometimes led to trouble. It may not be the best way to begin, but it is one way; and once started it is not likely to stop. Most new school enterprises have started in tentative and often charitable ways and were so managed until public support could be obtained. If the work were started with free inspection there is little doubt that results could be obtained which would make the public glad to pay for more complete and efficient examination than any free agency could give.

The second method would be to employ a specially trained physician for all of his time, or two or more part-time physicians who could give one to three hours a day each. A physician who is expert in this sort of work is able to command a larger salary than the present situation would warrant the board paying in Leavenworth. So regular physicians would have to be employed on part time. This would be preferable to free examinations, but would have definite limitations. Little remedial or follow-up work could be attempted, though this is the most valuable kind of service medical organization can render to the schools.

The nurse-alone plan would be superior to either of the first two mentioned for Leavenworth. A competent and scientifically trained nurse could be employed as cheaply as the part-time physicians. She could go from building to building, making tentative examinations, treating incipient and simple cases, and recommending doubtful cases to the family physician. Some contagious and infectious diseases could then be headed off and certain epidemics prevented. She could train teachers to more careful and expert observation and aid in more prompt action. Cases could be followed up by visitation to the homes of some of the children, where parents could be advised regarding methods of preventing the spread of disease and of treating simple maladies.

The fourth plan is the only complete and wholly satisfactory one. It would consist in the appointment of the expert physician, to be aided by a specially trained nurse. The physician could organize the inspection and examination of school children, advise the school architect and Board of Education regarding sanitary matters, direct the teaching of hygiene, aid the physical director, and correlate all the health agencies of the schools. The nurse could aid in the ways previously mentioned, and is particularly useful in making effective the recommendations of the physician. This complete program would be more expensive to start, but would more fully justify itself in the end. Whatever is done at present should look forward to this plan as an ideal.

## PLAN RECOMMENDED.

After canvassing the local situation and discussing it fully with other members of the Survey Staff, the writer is ready to recommend that for next year the nurse-alone plan would probably be best for Leavenworth. The work in hygiene needs to be organized fully and effectively. To employ a physician with the requisite special and technical training for this purpose would cost more than the financial situation would warrant at present. A nurse could make a beginning of this organization and enlist the aid of the medical fraternity. As the opportunity appears, medical examinations could be added and the other phases of school hygiene correlated. When experience has justified additional expenditure and knowledge has opened the way for complete organization, a trained supervising physician can be employed to coordinate all the phases of school health work and administer them efficiently. Great care, however, should be shown in employing a nurse, since her work would be not only technical but administrative and constructive. It would not be less important and responsible than that of one of the building principals, and the salary should be fixed accordingly. This program may well be undertaken with the opening of the autumn term.

## CHAPTER XVII.

## LANGUAGE.

Minnie E. Porter.

TRAINING in the use of language means training in self-expression. The teaching of language has taken on a new and wider significance with the modern view of education—the development of the individual child through the *expression of self* in a *social situation*. A child is the one who expresses himself to others through the medium of language and the one to whom others give expression of their own impressions or experiences. A child is both creator and interpreter.

As a reader or a listener the child adds to his life experience, with its limitations of age and circumstances. But the experiences into which he enters imaginatively through reading may be none the less vital than those which he lives in reality. It is to these experiences, both real and imaginary, that he desires to give expression. The simplest form of social expression for a child is his own language.

In this report reading is considered in a separate chapter, but the relation of reading to the life experience and the self-expression of the child has been constantly kept in mind.

## STANDARDS.

Motives for training in the use of language arise from the language needs of boys and girls. These needs are real, not imaginary. The ability to state his own case, to make himself understood, to share an interesting experience with others, are real needs of any pupil. But all of these needs imply social relations. The need of complying with accepted standards of good usage in the matter of language is as imperative for a boy as are neckties and other matters of conventionality in dress. No boy will wear a necktie tied in the back, because he must conform to what is customary among his mates. In the matter of language, the problem for the teacher is one of establishing common social standards within a group of immature pupils.

With such motives as a basis of effort in the effective use of language, the pupil necessarily acts upon his own *initiative*. The conditions of effective expression demand that he decide upon what he wishes to express. Whatever the case may be, the occasion must be a real one, the audience or reader a real one, and the boy's idea must be his own, if he would express himself clearly and forcibly.

If the pupil is in earnest he begins a process of *evaluation*. If his idea, the statement of his own case, is to be made effective, he is forced to decide what to say and what not to say. This process of evaluation is not carried on successfully unless the reader or the audience is taken into consideration.

The successful presentation of his own case, or the narration of a story, is not possible without *organization*. The pupil must decide upon

what comes first, what is of greatest importance, and what shall be the conclusion of the whole matter. The simplest writing or speaking, to be effective, must show consideration of beginning, middle, and end.

#### THE TEACHING OF LANGUAGE.

With these standards set up for the teaching of language, what is the teacher's place? What is her service? This teaching of language is not concerned with drill upon facts about language, with definitions in grammar and rhetoric, but it is concerned with actual doing as contrasted with acquiring knowledge of facts about language. Take, for example, the definition, "A sentence is a group of words expressing complete thought." This is a fact about language. Pupils of Leavenworth are being drilled upon this definition in all grades, from grade four to the second year in High School. Drill upon this definition for six years has not aroused a consciousness of the meaning of the word "complete" as it is applied to a sentence. With a class of first-year pupils in High School a teacher was observed struggling with this difficult problem in oral composition. In the actual doing, the problem is simple. We decide to say something about something, and when we have done this thing there is a consciousness of completeness, of unity, of a purpose fulfilled. The definition of a sentence, the statement of a fact about language, has no value apart from its application—the use of a sentence as a unit in speech. The consciousness of a sentence as complete arises from the use of sentences in the real expression of the child.

If knowledge of the facts about language, including grammatical structure and rhetorical principles, remains abstract—cut off from application to the pupil's own language, which is free and spontaneous—then the teaching of language will be termed in this report *formal*, as distinguished from that which is *real* and *vital*.

The first essential, then, is the establishment of habits of correct and of effective expression, for the child himself, as he is called upon to meet the social demands of writing and speech. This standard is to-day one which the teaching of language has as its goal in the elementary school. This period of learning by doing reaches to the end of grade six, which is now looked upon as the real transition between elementary and secondary education.

In the program outlined for the teaching of language in Leavenworth this purpose is emphasized in grades four, five and six. In addition, the program provides for a systematic study of formal grammar and for training in composition in grades seven and eight. There is in Leavenworth, at present, a movement toward the study of the problem of language teaching above grade six as one which presents problems more closely related to those of the High School than to those of the elementary school. This report on the teaching of language in Leavenworth is based upon the division at the end of grade six.

## THE TEACHING OF LANGUAGE IN GRADES FOUR, FIVE AND SIX.

This report involves (1) an examination of the program outlined for these grades, (2) a study of the methods of teaching, and (3) an estimate of the results obtained. The program has been examined for the purpose of determining what provision has been made for training (1) in the art of self-expression both orally and in writing, (2) in the use of correct grammatical forms as habits of speech, and (3) in the knowledge of the technique of the English sentence as "the structural unit in the use of language." The methods of teaching have been studied in the written reports of the teachers, in conferences with them, and in the observation of actual work of teachers in the classrooms. The results obtained have been estimated by means of a study of the oral expression of the pupils during these observations, and by means of an examination of one hundred fifty compositions written by all of the sixth-grade pupils in Leavenworth in May, 1914.

The recommendations which are contained in this report are made on the basis of the study of actual conditions and problems. Owing to the limitations of time which have necessarily been placed upon these observations, and to the lack of comparative data upon which conclusions may be based, this report should be considered as suggestive rather than conclusive.

## THE COURSE OF STUDY.

The examination of the program outlined for the teaching of language shows that the state textbooks, Scott-Southworth's Lessons in English, have been made the basis of the work—Book I in grades four and five, and Book II, pp. 1-78, in grade six. The emphasis in the textbooks is placed upon the training of children to talk and to write freely about things which they know. The outline in the textbook for composition work includes letter-writing, story-telling, and the recording of observations made in the study of plant and animal life. A recommendation made in the program outlined for grade five reads as follows:

"Never allow the children to write upon a subject until they are full of it. The way to get full of a subject is by *personal, active and living investigations*. This will lead you out of the schoolhouse and into many places in and around the city, *but it is the only way* to get the best for the children. In such investigations, of course, you will proceed by some previously outlined plan."

A provision has here been made for the communication of vital impressions and experiences, which are characterized by a personal feeling for the facts and the images to which the child desires to give expression.

The outline also provides for training in the conventional use of language—in grade four as follows: the proper oral and written use of ordinary singulars and plurals, possessives, and case forms of personal pronouns. In grade five this drill is continued, and additional training is provided in the use of singular and plural verb forms and of the principal parts of ordinary verbs. Training in the conventionalities of written composition includes the use, by habit, of capitals, periods, question marks, quotation marks, and the comma, of address, word series, and inverted phrase.

In addition to this provision for training in the habitual use of correct



forms in oral and written speech, training in the knowledge of the technique of the English sentence as the structural unit of composition is outlined as follows:

For grade five: "To have the subject concept, the predicate concept, the object, and in a general way the modifier concept."

For grade six: "To review sentences with respect to the four forms. To fasten the subject and predicate concepts, both the simple and complete. To study the phrase modifier and the clause modifier and build them into sentences. After building the sentence, to analyze it into its parts, and diagram. Use the pupil's own composition as illustrative matter in classifications, building, analyzing and diagramming. But such matter must be his own composition, not written for the purpose."

Provision has thus been made, before the end of grade six, for a study of the technique of the English sentence, simple or complex, as it is *related to the pupil's own composition*. The application of this knowledge of the technique of the English sentence to the self-expression of the pupil is fundamental in all training in the use of oral or written language.

At the end of grade six, according to the program outlined, the pupils in Leavenworth have been taught to classify words according to their respective functions in the sentence; to recognize the case forms of personal and relative pronouns; to use the principal parts of ordinary verbs with *has* and *have*; to recognize the singular and plural forms of ordinary verbs; to recognize the subject, the predicate, the object; to recognize phrase and clause modifiers; to analyze and diagram simple, complex, and compound sentences.

#### EXAMPLES OF THE TEACHING OF LANGUAGE.

One teacher was observed in a class of fourth-grade boys and girls. This teacher kept the interest alive and the pupils active in a review lesson on nouns, adjectives, and verb forms. The lesson was marked out from other lessons observed as being, not a memory drill and review of these topics in formal grammar, but a lesson in application, in which nouns and verb forms were discovered as necessary in the real language of pupils. The boys and girls enjoyed a lively conversation about subjects of interest in the classroom and in their activities outside. One little girl who wore a bright pink dress heard the sentence, "Mary's pink dress is pretty." The correct tense forms of verbs were made necessary as pupils were busy telling of their activities. The writer learned about a ball game: "Updegraff was playing ball last Saturday." This training was not limited to the conversation. News items were, likewise, written upon the blackboard. Of the lessons observed, this was one of the best examples of the careful work of the teacher in building habits of correct speech into the free, spontaneous language of children.

Such work may be contrasted in its effectiveness with the formalism in teaching in which another followed with the pupils an outline of nouns and adjectives on the blackboard:

"Mary may begin." (Mary rises.)

"You may give me a noun in the plural."

The noun is given correctly.

"A noun ending in *y*."

The plural of a noun ending in *y* is given correctly.

"You may name some adjectives for me."

Could a boy or girl think that those adjectives would be useful to that teacher? Such work remains purely formal and abstract. It is accomplished without any real motive behind it.

The writer observed a lesson upon the essentials of a sentence (Lessons in English, Book II, page 12). The class consisted of eight boys and six girls in the sixth grade. The lesson began with a review:

TEACHER: What is a sentence?

PUPILS: A group of words making complete sense.

TEACHER: *A large tree* is a group of words. Is it a sentence?

PUPIL: No.

TEACHER: Make it a sentence.

Assertive, interrogative and imperative sentences, with examples of each, were readily but uselessly given by the pupils. The new work for the day's lessons was then undertaken. The teacher had prepared on the blackboard a group of sentences. The pupils, in turn, were asked to go to the blackboard and mark subject and predicate, simple subject and predicate, and modifiers, as follows:

*The leaves of the tree fall every autumn.*

Sentences in the textbook were studied in the same manner.

The boys and girls in this class were interested for two reasons: They enjoyed the mental and physical activity of going to the board to mark the essentials of the sentences; they were pleased to be able to correct the mistakes made by their mates. Yet the work showed no opportunity of initiative on the part of the pupils in the use of language. The teacher had made plans and was in the foreground during the recitation. The teacher and pupils, however, were working together in a happy personal relation. The pupils were willing to work, and from the standpoint of formal instruction and the acquisition of formal subject matter the results would be considered highly satisfactory. Yet no application was made to the real needs of these pupils for training in language, although the teacher explained to the writer that few of these boys and girls would go to High School and some would not finish the eighth grade.

In this group of fourteen it would have been quite possible for the teacher to find in the compositions of these pupils examples of their failure to recognize the essentials of a sentence. A teacher need not look far to find, in the language of the sixth-grade pupils, two types of failure in sentence structure: (1) a part of a sentence set off by a period as if complete, and (2) a sentence which runs on and on because the pupil does not feel the sense of completeness when he has said the one thing which he intended to say about his subject. The difficulty of applying to writing and speech the knowledge that a sentence is a group of words making complete sense does not arise from an attempt to write a single isolated sentence, nor is the difficulty to be found in the recognition of the essentials of a sentence *previously constructed* for the pupil. In order to teach the sentence as the structural unit in the use of language, it is necessary that it be taught as a unit in composition in which the writer expresses himself with freedom and spontaneity. Thus the sentence becomes a unit in a discourse which moves easily from one thought to another. It is a structural unit which functions as a part of a larger unit of discourse, the whole composition.

COMPOSITION IN GRADES FOUR, FIVE AND SIX.

As a means of determining the nature of results obtained from the teaching of language in grades four, five and six, compositions of one hundred and fifty pupils, representing the total number of pupils in grade six, have been examined. The compositions were written for this purpose, in May, 1914, upon subjects of interest to pupils in Leavenworth. The papers were submitted without correction by the teachers.

The papers were read at first for the element of human interest, which depends upon the individuality shown in the expression of the pupils. While this element was not entirely absent in the work of any group of pupils, yet the results from different groups showed so much variation in the degree of self-expression that an attempt has been made to rank the work of these groups according to the element of human interest. In the tabulation this order is observed. The first column shows the work of the pupils from Lincoln, one of the colored schools, in which the element of human interest is strongest.

A second reading, from which notes were carefully made, was undertaken with a view of determining the fundamentals of technique which showed the greatest variation in the work of the pupils of grade six. An analysis of the results of this reading suggested that two points would serve as guides in determining the nature of the results obtained on the basis of the program outlined for the attainment in composition at the end of the sixth grade. The two points determined upon as those which would show the application of knowledge of the simple technique of the sentence in the written composition of the pupils are as follows: (1) the ability or failure to recognize a sentence as a group of words expressing a complete thought; (2) the ability to use, in connected discourse, a complex sentence.

The papers were read for the third time, and a count was made as follows: (1) Each paper in which a single failure occurred in the recognition of a complete sentence was counted a failure on that point. The number of such failures in one paper was not considered. (2) Each paper in which one or more than one complex sentence was used, was credited for that point. The results of this study apply to Leavenworth alone. The lack of comparative data on these points makes it impossible to reach any conclusion about the results of the effectiveness of the teaching in Leavenworth as compared with that of other cities. It is hoped that the results shown for the schools in Leavenworth will suggest to the teachers the possibility of determining the reasons for the variations. The test is simple, and covers but a few points in the study of a problem so complex as that of English composition. The results of this study are submitted in Table XXVIII:

TABLE XXVIII.

	Total.	Lincoln.	Sumner.	Morris.	Oak Street.	Third Avenue.	Franklin.	Maplewood.
Number of compositions examined.	150	7	10	23	28	43	17	22
Per cent of pupils who had all sentences complete.....	63	.....	50	74	46	84	46	73
Per cent of pupils who used one complex sentence.....	80	43	100	83	82	95	94	36

The results of this test may be interpreted by representative extracts from the pupils' compositions. For example, the result shown in the column for the Lincoln School may be interpreted by the following quotation from a boy's theme. The selection is marked by the joy and power of self-expression and by the element of human interest. It is lacking in the technique of the structure of the sentence.

A boy threw his line in the lake and a snake made him leave his line. he ran all around the bank hunting for a stick to kill the snake with and he killed the snake and laid it on the track and the train cut its head off. and when he pulled up his line he had a crawdad and he took its tail for bait.

There is no doubt that this boy, with real, vital impressions and a story which had stirred him, has taken delight in expressing himself sincerely. By expressing himself with freedom and spontaneity he has made an appeal which is true to human nature. His story shows a movement from the beginning to the climax of the reader's interest. He has interwoven two related incidents successfully. These qualities, which characterize genuine literary expression, must be preserved in his work. The writing, of course, is lacking in the technique of sentence structure. He has a number of ideas to be expressed; each is complete in itself. But these ideas are also related ideas, some of which are subordinate to others. These are the problems in technique for the instruction of the teacher. Any attempt to improve the technique of this work must be undertaken by the teacher with a view of preserving the qualities of expression which make a strong human appeal.

Contrasted with the example just quoted is one which is representative of a column ranking high in the technique of the sentence but low in human interest or in self-expression. Note the superficial tone of children who write of a trip to Pilot Knob after this fashion:

We had much benefit by the trip.

Our teachers were very anxious to have us get all the good out of it so we would be able to write on it.

We were very tired but when we got our lunch we felt much better. And started our afternoon work.

We ate our dinner and then after a little rest we were ready for our afternoon work.

We went to the Knob for a grammar and geography lesson and to get specimens for drawing.

These pupils show some mastery of technique, but their composition work presents greater difficulty in the way of improvement than does that of the boy who writes the snake story. Spontaneity has been lost. The expression is insincere and artificial.

Another column shows (1) little expression of self; (2) a knowledge of the sentence as a complete thought; (3) a high percentage of pupils who did not use a single complex sentence. The following quotations will serve to show the immaturity of the pupils in their use of the sentence. The two quotations were selected because they show the level of uniformity which was characteristic of the work of more than twenty pupils.

(1)

We have an ice cream social the latter part of each year. Our ice cream social will be May 26th this year. The Huffman Music Co. will come out to our school grounds. We can have music.

We have it on the school grounds. We have a large yard. The north side of our school grounds has grass on it. We also have large shade trees.

## (2)

We have our Ice cream Social the latter part of every year. This year it will be May 26th, 1914.

We have a large yard, and also very nice grass. We have several large shade trees. We have our tables under our shade trees.

These quotations are additional evidence of the result of teaching formal technique and the failure to apply the knowledge of the use of phrases and clauses to the real language of the pupil.

One column, which represents work strong in technique, with some element of human interest, shows the results from the compositions of pupils who wrote upon the "Autobiography of a Penny." Such a subject is artificial and of doubtful value. These pupils might have done better with a subject which approached more nearly the demands for genuine self-expression. In contrast with the simple undeveloped sentences just mentioned, these quotations show some maturity in composition:

While I was lying under the window for almost two weeks, I was stepped on by a man who put me into his pocket and said, "I think this will bring good luck to me."

The boy thanked the man for me and then took me into a bakery and bought a cake for his dinner.

I am still in the bakery and am very tired looking at cake and pie.

I like best to travel around with little children from one store to another.

One class, that made almost the same record as the one writing about the penny, wrote about the story hour in their school. Some of the pupils said that they like stories because they rest the mind. Others who were really interested told stories. The following extract shows the pupil's ability to carry forward the movement in the story. It also shows that this pupil is not always able to recognize a complete sentence as a structural unit in his story. The composition reveals the points at which he needs the help of the teacher to arouse in him a consciousness of the sense of completeness in a sentence.

The Town Musician is a good story about a donkey that was going along the road braying because his master thought he was too old to work so he chased him away. When he thought of his good voice and said he would go to Brennan to be in the band. He then met a dog, a cat, and a rooster. Then they were resting when the rooster saw a light. They went over where the light was and the donkey looked in the window and saw some robbers. So they made a plan that the donkey should bray, the dog should howl, and the cat should mew, and the rooster should crow.

The reproduction of a story which gives room for a play of the creative imagination of the pupil is one of the most effective means for the development of the use of language in these grades. The onward movement of the story in both oral and written composition tends to produce the sentence which runs on and on. It is in this work that the teacher finds it necessary to keep freedom of movement in the story, but to build into it the sense of the unity or completeness of a sentence. It is a difficult problem in these grades, but one which is fundamental.

For the columns which show a knowledge of technique both in the unity of the sentence and in the subordination of one idea to another, the writer has selected, from some compositions about Pilot Knob, the following quotations. Each quotation shows that the application of knowledge

of the technique of a sentence is necessary to self-expression—the aim of composition:

Some of the children went to gather violets and saw a snake which they thought was a rattler.

There were four of us girls who went into the woods where we saw a rattle snake.

We caught some fish, shot some squirrels, and ate all the apples and peaches we could.

The following quotations from an account of the pupils' visit to the Soldiers' Home show the same quality of self-expression combined with a mastery of sentence structure:

There is a very large white flag pole on the highest hill from which the red, white, and blue flag floats. It is raised at sunrise and lowered at sunset.

After the flag is down the men fold it up, but they are very careful not to let it drag.

#### THE ORAL USE OF LANGUAGE.

The oral use of language was judged by the following standards: (1) Is the use of language free and spontaneous? (2) Does it make the hearer acquainted with the individuality of the children as speakers? (3) Does the program show a provision for training in the habits of correct speech without inhibiting the real, vital use of spoken language? In the textbook and in the printed outline for grades four, five and six, oral composition is placed before written composition in the amount of time devoted to it and in the order of presentation.

In grade four, one teacher used successfully language games which provide for the repetition of correct grammatical forms. Such a device may easily become mechanical. In this case, however, the attention of the pupils was centered upon the thought, the expression of which was demanded by the activity of the game. Repetition of the correct forms, with the attention of the pupil centered upon the thought expressed, furnished valuable training for the ear, which becomes a guide in the use of correct forms in speech.

One form of oral composition which is being used in Leavenworth in these grades is story-telling. This form of training is well adapted to the child's interests during this period, and is a natural stimulus toward a growing freedom in self-expression. But story-telling is a creative art. The real story-teller will enlarge upon his story, will improvise and develop parts of the story as a composition which grows with the telling. This real story-teller is able to adapt the story to the interests of his audience. During the time spent in the classrooms the children were asked to tell some of their best stories. The results obtained showed two types of training in story-telling. In some cases the children told stories in a manner which showed the art of a genuine story-teller, an art of free and spontaneous expression which may be easily developed in children under twelve years of age. In other cases the children recited, in a stiff, stilted, artificial manner, stories which had been committed. In one case the children recited, in order, parts of the story. In such cases the language was correct but formal, while in the case of the real story-teller the genuine language of the pupil revealed some of the same crudities of speech that are found in the language used in the snake story, previously quoted.

In a class in grade five the pupils responded so readily with correct sentences in a drill in grammar that an attempt was made to test the effectiveness of this training in sentence structure in its application to the real language of the pupils. Some of the pupils were encouraged to tell stories of the early days in Leavenworth. One boy told a marvelous tale, which his grandfather had told him, about a man "who jumped clean across the creek." He became so much interested in his story that he revealed his real use of language. The teacher apologized for the boy's forgetting himself and consequently using such poor language.

#### LETTER-WRITING.

Letter-writing is a need felt by children from ten to twelve. The life of each school community creates demands for the writing of business letters. The principal of a building and the teachers attend to business letters for the school, which would provide motives for letter-writing for their pupils. In one school, which purchased a victrola as a community enterprise, there must have been sufficient business to call for a number of business letters in the raising of funds and in the purchase of the victrola. The teacher must have investigated the subject of the cost and the kinds of victrolas. This information might have been collected by the older pupils and reported to the school, orally or in writing.

The principals and teachers frequently telephone to the superintendent's office for supplies or for necessary repairs. If the needs were anticipated, requests might be sent to Mr. Morgan, the clerk of the board, in the form of business letters written by pupils. These letters would call for specific description and explanation of the supplies or repairs needed. The request would be made effective by the statement of the reason that these things are necessary or desirable. In one school illustrative material for geography is collected. To do this it is necessary for some one to write business letters to many firms. These letters may be written by pupils. The replies from them will be studied with more interest than the models given in a textbook. There are a number of problems involved in the writing of these letters. The teacher helps the pupils in meeting them successfully, but she does not take the responsibility.

These problems which arise for the boy and girl in the organized life of a school community, as well as in the world of affairs outside the school, will challenge a natural desire to meet real conditions and to achieve results. The subject matter of instruction in the use of language may be brought into the form of problems arising for boys and girls in many social situations found in the classroom, in the school community, and in the world of affairs. Herein lies a test of the teacher's skill.

#### RECOMMENDATIONS FOR GRADES FOUR, FIVE AND SIX.

We recommend the elimination of formal grammar in grades four, five and six, but ample provision for training in habits of use of correct speech, together with the mastery of the simple technique of the English sentence, as reasonable requirements in language study. In

Leavenworth this recommendation will result in economy of time and effort which may be expended in more helpful pursuits.

Some of the teachers have not yet recognized the social conditions in the school which provide motives and call forth the initiative of pupils in self-expression. As a consequence of this failure to recognize the influence of the demands of the environment of the pupils, and on account of the traditional ideas of the teaching of grammar as a formal abstract subject, training in language falls below the standard: the development of the child through the *expression of self* in a *social situation*.

The variations noted in the tabulations of the results obtained in composition at the end of grade six suggest that they are not due primarily to the home environment of the pupils, but to the point of view of the teachers in regard to what constitutes effectiveness in language teaching. With the same untiring industry which characterizes the work of these teachers, but with a changed point of view, the teachers of Leavenworth have within their possibilities of accomplishment the achievement of a high standard in the teaching of language.

GRAMMAR AND COMPOSITION IN GRADES SEVEN AND EIGHT.

Before the teaching of grammar had been observed, a simple test on fourteen points was prepared and given, in March, 1914, to all of the pupils in grade eight, numbering 137, and to 115 pupils who entered High School in September, 1913. In order to obtain some basis for comparison, the same test was given at approximately the same time to the eighth-grade pupils in Kansas City, Kansas, and Wichita. A total of 707 pupils of grade eight who use the same textbook were tested.

DIRECTIONS FOR GIVING GRAMMAR TEST.

This test is to be given by the regular teachers.

Give plenty of time for the test.

No explanation should be given to the pupil by the teacher for parts I and II.

In part III the teacher should say to the class, "This exercise calls for the writing of one long sentence and no more. No certain number of words is called for, and the sentence will not be judged by its length."

The answer to all questions are to be written upon the test sheet.

GRAMMAR TEST.

Name..... School..... City.....  
 Boy or girl..... Age..... Date.....

I. There is no man *in* Mexico whom the United States government *now* recognizes as the ruler of *that* country.

- (1) Name the verbs in this sentence.
- (2) What is the case of *whom*?
- (3) How is *whom* used in this sentence?
- (4) Name the parts of speech for the words italicized:
  - 1. *in* .....
  - 2. *now* .....
  - 3. *that* .....

II. State the reasons which you have learned in the study of grammar for saying:

"I have seen him" instead of "I have saw him."

"Will you go with him and me?" instead of "Will you go with him and I?"



III. Write *one* sentence only. Let the subject of the sentence be your favorite hero, and let the predicate, with its modifications, tell the most wonderful thing this hero did.

The points considered in the first two questions are indicated. In the third, five points were considered: (1) the use of the favorite hero as subject; (2) what he did used as predicate; (3) period at end of sentence; (4) beginning name of hero with a capital letter; (5) following directions by writing only one sentence.

The test is simple. It does not cover many points in formal grammar which have been taught to these pupils. All of the fourteen points selected have been taught to pupils in Leavenworth at the end of grade six, with the single exception of the "use of *whom*," which is taught in grade seven.

Five points test ability to classify words in the sentence as parts of speech: verbs of two kinds, preposition, adverb, and adjective.

The adjective *that* was chosen because it is a word which may perform other functions in the sentence.

The word *whom* was chosen because it is an inflected form—a real case distinction as the language. Its use in a sentence must be understood.

The tense form of the verb *see* and the case form of the personal pronoun were selected for the test in order that it might be determined, if possible, how far these pupils are able to see some relation between their knowledge of formal grammar and the use of correct forms of speech. This test shows nothing of the knowledge of correct forms. This point was eliminated from consideration by the statement of the correct forms.

The assignment of "Your favorite hero" was made in order to center the attention of the pupil upon his own thought while writing a sentence. Upon such a basis it was the aim to test his ability to apply knowledge of the essentials of the sentence and to test his consciousness of a sense of completeness in a sentence of his own composition.

The papers of the pupils in Leavenworth were all scored by the writer, as were some of the papers in each of the other cities. The other papers were scored by two advanced college students at the Kansas State Normal School, under supervision. Each of these students has had experience in the teaching of grammar. The test leaves opportunity for few questions of judgment in grading. In the cases in which such questions arose they were referred to the writer for decision.

#### THE RESULTS OF THE TEST.

The general average, which is taken as a basis of comparison in Table XXIX, shows the per cent right on each point, in a total of 707 pupils in grade eight in three cities, including Leavenworth. No pupils of high-school grade were included in making up the average. The average for each city shows the per cent right in the total number tested in that city.

Although Leavenworth allows a greater amount of time for the teaching of grammar than is allowed in either of the other cities, the tabulation shows that it falls below the average in twelve points. In the column marked "High School" it is to be noted that these pupils fall below the pupils in grade eight in Leavenworth in eight points, but are above those pupils in six points which require thought.

TABLE XXIX.

Tabulation of Grammar Test.

	Leavenworth.	Kansas City, Kan.	Wichita.	Average.	Oak St.	Morris.	Third Ave.	Sumner.	Lincoln.	H. S.
Number of pupils tested in grade eight,	137	329	241	707	26	23	74	6	8	115
The verb <i>is</i> .....	97	97	100	98	100	100	94	100	100	95
The verb <i>recognize</i> .....	91	95	97	94	92	100	87	100	100	94
The case of <i>whom</i> .....	62	83	82	75	50	91	51	100	75	60
The construction of <i>whom</i> .....	17	55	48	40	.....	56	23	17	.....	19
To classify <i>in</i> .....	97	96	97	97	92	100	97	100	100	89
To classify <i>now</i> .....	92	97	94	94	85	100	82	100	100	68
To classify <i>that</i> .....	31	51	73	54	54	13	28	50	12	34
Tense form of verb <i>see</i> .....	39	65	39	48	38	27	37	100	25	32
Case of personal pronoun. ....	41	72	73	62	23	43	47	83	12	49
Subject of sentence.....	95	98	96	96	96	91	94	100	100	96
Predicate of sentence.....	91	97	97	95	88	91	90	100	100	92
Period.....	89	90	96	92	85	91	89	83	100	83
Capital . . . . .	94	96	98	96	96	91	94	100	87	75
One sentence only.....	94	93	96	94	92	90	94	100	100	87

In the naming of the verbs in the sentence, the results throughout show that *is* is named by more pupils than the verb *recognize*. This variation suggests that *is* may be named as a result of memory drill, while the verb *recognize* demands a knowledge of the use of the word.

The preposition *in* makes almost the same record as the verb *is*, and helps to strengthen the suggestion that the pupils succeed here as the result of drill in memory work.

The adverb *now* shows that this point is more difficult than those mentioned. Oak Street, with a score of 85, and Third Avenue with 82, show that this point is difficult. But the first-year pupils in the High School make a score of 68, the lowest record.

The adjective *that* and the "use of *whom*" presented the greatest difficulties of the points given in the test. These two points demand clear thinking upon logical relations in the matter of language.

TABLE XXX.

<i>"That is an adjective."</i>		<i>"Use of whom."</i>	
Wichita .....	73	Morris .....	56
<b>Total average</b> .....	<b>54</b>	Kansas City, Kan.....	55
Oak Street .....	54	Wichita .....	48
Kansas City, Kan.....	51	<b>Total average</b> .....	<b>40</b>
High School .....	51	Third Avenue .....	23
Sumner .....	50	High School .....	19
<b>Leavenworth average</b> .....	<b>31</b>	<b>Leavenworth average</b> .....	<b>17</b>
Third Avenue .....	28	Sumner .....	17
Morris .....	13	Oak Street .....	0
Lincoln .....	12	Lincoln .....	0

The word *that* may perform other functions in a sentence. The average of 707 pupils tested in these cities shows that only 54 out of 100, or approximately half of the number, were able to decide correctly upon the function of the word *that* as an adjective in the sentence given. But the wide distribution of the scores suggests that this variation may have resulted from differences in teaching instead of differences in abilities of pupils represented.

In contrast, however, to the use of the word *that*, the use of *whom*, if it be understood, becomes a conscious standard for correct speech. The average of 707 pupils tested shows that only 40 out of 100, or considerably less than half, were able to give the use of *whom*. As in the case of the word *that*, the scores show a wide variation. The average for Leavenworth is only 17 out of 100, although Morris made a score of 56, the highest in the list. Sumner makes a score of but 17, while Oak Street and Lincoln show zeros. The High School pupils have a score of 19 out of 100. This tabulation indicates that the teaching of the use of *whom* is difficult for all; but it is an essential which is taught in Leavenworth with a variation in results from 56 to 0.

The verb form *have seen* presents greater difficulties than does the case form of the pronoun. In the average for the verb form *have seen*, 48 out of 100 tested were able to give reasons; for the case form of the pronoun, 62 out of 100.

But here, as in the two points noted which require thought, there is wide variation:

TABLE XXXI.

<i>"Have seen."</i>		<i>"With him and me."</i>	
Sumner .....	100	Sumner .....	83
Kansas City, Kan.....	65	Wichita .....	73
<b>Total average</b> .....	<b>48</b>	Kansas City, Kan.....	72
<b>Leavenworth average</b> .....	<b>39</b>	<b>Total average</b> .....	<b>62</b>
Wichita .....	39	High School .....	49
Oak Street .....	38	Third Avenue .....	47
Third Avenue .....	37	Morris .....	43
High School .....	32	<b>Leavenworth average</b> .....	<b>41</b>
Morris .....	27	Oak .....	23
Lincoln .....	25	Lincoln .....	12

It will be seen from the foregoing tables that in the case of Kansas City and Wichita, 72 and 73 out of 100 are able to explain the use of correct form by means of their knowledge of the case of the personal pronoun. In Leavenworth 41 out of 100 are able to use these facts of language as standards for correct speech. But these cities show that there is greater difficulty with the verb form. In them only 65 and 39 out of 100 are able to explain the correct form, and in Leavenworth 39 succeed.

THE WRITING OF ONE COMPLETE SENTENCE.

The last assignment in the test, to "tell the most wonderful thing your hero did," did not serve to carry some pupils from the formal mechanical sentences used in grammar drills. Such sentences as the following occur frequently:

- Columbus discovered America.
- Lincoln freed the slaves.
- Washington crossed the Delaware.

These sentences are all of one type, and it would be difficult for pupils to make any mistakes who remembered that this was a test in grammar. In the five points tested the average was between 92 and 96, with but slight variation in either Leavenworth or in the cities A and B. Sumner and Lincoln show *four* perfect scores in four out of five points here. Sumner has 83 on period at the end of the sentence and Lincoln 87 on capitals. It may here be noted that failure to recognize the end of a sentence occurred more often in the work of pupils who expressed something which showed their real interest in their heroes. One sentence written by an eighth-grade boy is as follows:

Jack Tompson was a scout during the out-break with the Apache Indians, he scouted at night and day with an indian scout called, Mendez, killed four with his gun, and cut two with his sword in one evening.

Two examples are chosen as representative of the work of pupils who fail to show a sense of completeness in writing a sentence. In each grade from the fourth to the second year in High School this definition is recited: "A sentence is a group of words expressing a complete thought." The first sentence was written by a boy, age 15, in the first year in High School, his tenth year in school:

One day my faithful dog hero saw another boy kicking another small boy, and he ran up and bit the big boy on the leg, and the big boy stoped kicking the small boy and went away crying, much to the small boys satisfaction.

The second was written by a boy 14 years of age, first-year class in High School, in his ninth year in school:

Mark the news boy was standing on a street car one morning when looking around, he saw on the opposite car a frame house in flames, he heard a cry from a window and with the aid of a box he climbed into the house, in a few seconds he came running out of the house with a little child in his arms.\*

This test suggests that the pupils succeed in those points which depend upon formal drill and memory work. They are least successful in the points which require thought about the function of a word, as in the case of *whom* and *that*, and in those points which call for ability to relate their knowledge of grammar to correct forms of speech.

If the habit of correct use of language be established by doing, rather than by studying facts about language, at the end of grade six, then grade seven may be considered the time to begin the really systematic ordering of the facts of language gained by experience into knowledge of formal grammar. This is the view expressed in the second preliminary report of the National Committee. At present a review of grammar is given in the first year of High School or grade nine. The plan of distributing the work in formal grammar through grades seven, eight and nine, according to the increasing abilities of pupils to master this knowledge, is a suggestion of one means of meeting at present this problem of the intermediate school.

#### COMPOSITION.

When the amount of time and effort devoted to the teaching of grammar is considered, the results obtained are disappointing to its most hopeful advocates. But the amount of time devoted to the teaching of composition in grades seven and eight yields results that are encourag-

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\* This sentence and the two preceding are given only as representative of types of faulty sentence structure.

ing. Compositions written in May, 1914, by the pupils in the eight A classes have been examined. The compositions were written to give an account of the field meet in Leavenworth. They were written to give information, and not as compositions or school exercises. They have been submitted without correction.

The papers were first examined for the two points in the technique of the sentence which were studied in the writing of pupils of grade six. The following tables, with a comparison of results obtained at the end of grade six and the end of grade eight, show that in two years pupils have acquired the use of the complex sentence. But one pupil failed to use a complex sentence.

*Ability to Use a Complex Sentence.*

	Total.	Lincoln.	Sumner.	Morris.	Oak Street.	Third Avenue.
At the end of grade six.....	80	43	100	83	82	95
At end of grade eight.....	99	100	100	100	97	100

The sentences showed a mastery of a variety of means of subordination. Relative clauses are used, but no pupil in grade eight made use of the relative *whom* in his composition. As this proved to be the most difficult point in the grammar test, there is a suggestion that the use of *whom* requires a more mature grasp of sentence structure than is found among pupils of this grade.

There is a marked gain in ability to recognize a sentence as complete. Of the papers examined, one pupil made five errors on this point, one made four, one made three, five made two, and all others who failed on this point made but one error.

In the following table it will be noted that a comparison has been made between the pupils of grade six and grade eight in their respective abilities to recognize a sentence as complete. There is also a comparison of abilities of pupils of grade eight in recognizing a sentence as complete when it is a unit in composition, and the abilities of the same pupils when they are asked to write one sentence only as in the grammar test.

*Percentages of Those who Recognize a Sentence as Complete.*

	Total.	Lincoln.	Sumner.	Morris.	Oak Street.	Third Avenue.
End of grade six.....	63	0	50	74	46	84
End of grade eight.....	74	33	50	100	70	86
In grammar test.....	94	100	100	90	92	94

These results show that on entering High School in September, 1915, approximately one-fourth of these pupils must be trained to develop a sense of completeness as applied to a sentence when it is a unit in composition.

Another feature of the compositions written about the field meet, which show some maturity, is the development of the idea of a paragraph. The paragraphs are crude, but show a consciousness that some sentences should be grouped together because they tell about the same things. The plan for grade eight includes a systematic study of the paragraph. The textbook supplies the definition: "A group of sentences that belong together because they are all about one idea is called a paragraph."

## CHAPTER XVIII.

## MANUAL TRAINING IN GRADES FIVE TO EIGHT.

Ella V. Dobbs.

HANDWORK in the elementary school serves two purposes. It may be an orderly progress in learning how to use tools and materials by accepted methods. In technical handwork chief emphasis is placed upon execution, and the pupil accepts its methods upon the authority of the teacher.

Handwork may also be used as an illustrative factor in teaching other subjects, especially geography and history. Illustrative handwork places emphasis upon effect rather than technique, and the worker is allowed free play for his ingenuity and imagination.

Both types of work are needed in a well-rounded course. In the lower grades, while the undeveloped muscles of the children prevent great precision of movement, a large use of illustrative work tends to give a general acquaintance with materials, their properties and uses. A few technical processes are within the powers of first-grade children. The desire and need for definite control of tools increases year by year. These conditions suggest a large use of free work in the lower grades, with increasing emphasis upon execution until work of the technical type predominates in the upper grades.

## TECHNICAL HANDWORK.

Technical handwork includes definitely organized courses in various materials, wood, paper, cardboard, metals, textiles, etc. Among these the school must choose that type of work which is best suited to the needs and ability of the children for whom it is planned, which will appeal most strongly to their interests and furnish the strongest motive for effort, and at the same time develop to the highest degree their ability to think and act independently.

## ILLUSTRATIVE HANDWORK.

Illustrative handwork has neither time nor subject matter of its own, but is used by the regular teacher when it serves to present a topic more clearly. Its value depends upon the opportunity it offers for self-expression and self-directed activity. This value is lost unless the children are allowed to work out their own problems with a minimum amount of supervision and assistance. Illustrative handwork includes the making of posters and booklets and small representations of interesting things described in the textbooks, such as the cotton gin, the first steamboat, the *Merrimac* and the *Monitor*, canal locks, ancient and foreign methods of transportation, tools and cooking utensils of other lands and other times; also sand-table representations of interesting scenes, industrial processes, and any topic which may be made more interesting or more intelligible through the use of concrete expression.

Two important considerations enter into the evaluation of a course

in handwork, *i. e.*, that illustrative work shall be appreciated for its illustrative value and thought-provoking power without regard to its technical imperfections; and that technical courses shall begin with processes that the children understand and can perform with ease, and shall keep pace with their development in power to execute.

#### HANDWORK IN THE LEAVENWORTH PUBLIC SCHOOLS.

Handwork is provided for all students in the elementary schools of Leavenworth. In grades one to four simple exercises in paper and cardboard, weaving and basketry, are planned for boys and girls, under the direction of the supervisor of drawing. In grades five to eight the boys and girls work separately.

Boys of the fifth grade have a series of exercises in cardboard. Sixth-grade boys have a course of knife work in thin wood. Boys of the seventh and eighth grades have bench work in the manual training shop at the High School. Eighty minutes per week are devoted to these courses. In addition to these regular handwork courses, numerous projects in handicraft and applied design are given to both boys and girls in the four upper grades as a part of the work in drawing.

The type of work throughout the courses is that already described as technical handwork. It bears the impress of both the sloyd and Russian systems, and consists in each case of a definite series of exercises to be worked out by each pupil, the chief end in view being the mastery of common tool processes with a fair degree of skill. Until these processes are mastered the pupils follow definite plans made by the teacher. After the tool exercises are completed, some freedom is allowed in the choice of projects to which these fundamental principles may be applied. These projects include match boxes, necktie racks, coat hangers, bird houses, book racks, taborets, and numerous other small articles which may be used in the home.

A course in the reading and making of working drawings accompanies the work in wood. The first exercises are made from working drawings made by the teacher on the blackboard. For the next group of exercises each pupil makes a copy of a working drawing which has been prepared by the teacher. For more advanced work each pupil makes a sketch of the thing he proposes to make, and from this sketch he makes a complete working drawing.

In making a broad, general comment upon the work of this department, the writer would say that, with a few exceptions, all of the work that is being done is being well done. It accomplishes with fair satisfaction that at which it aims. And before any specific criticism of the various phases of the work is made, it should be stated that the general plan of work corresponds to and compares well with much, if not most, of the accepted type of work throughout the country. It has some features in which it is superior to the common practice. For example, the seventh- and eighth-grade boys have access to the very well equipped shop at the High School, where they work at the turning-lathe as well as the carpenter's bench, and become familiar with other machinery in use there. In a large percentage of manual-training systems the grade pupils handle the carpenter's tools only.

## GRADES FIVE AND SIX.

The course for the fifth-grade boys consists of a series of small models in cardboard, such as a pinwheel, wall-pocket, calendar, blotter, handkerchief case, etc. In making these models each pupil draws directly upon the cardboard the pattern which the teacher dictates. The article is then cut out, folded, and pasted or tied into shape.

The course in knife work for the sixth-grade boys consists of nine small articles made from thin pine, with the working drawings which accompany them. The list of articles includes a thread or fish-line winder, a key tag, a paper file (hexagonal base), paper knife, picture frame, key rack, whisk-broom holder, match strike, and match box. For these definite plans are prepared. The pupils copy the teacher's plan, first on paper and then on wood, adhering strictly to the dimensions of the original plan.

The tools used in this course are a compass, knife, and tack hammer. A very convenient kit, designed and made by the supervisor, holds both tools and materials. One side of the kit serves as a drawing-board, and the other side as a cutting-board, which protects the desk from injury, the work being done in the regular schoolroom.

Judged from the standard of technical handwork, these courses are open to question as to whether the subject matter chosen is of the form best suited to the needs and ability of the children for whom it is intended, and offers the strongest motive for their activity. The form of work chosen should not only meet these needs, but meet them more adequately than any other forms of work which might be used. It must not only get results, but get the best results.

The use of a single tool in the sixth grade limits the possible operations to be performed and confines the work chiefly to flat projects. To obtain variety in these some geometric forms are introduced involving operations which are difficult to perform with a satisfactory degree of technical accuracy. For example, the third model in knife work is a hexagonal piece of wood with a beveled edge—an exercise in whittling which requires considerable skill if a high standard is maintained. The range of projects in flat work is limited, and interest demands the introduction of some models of the box type. It is difficult to make a well-fitted box in quarter-inch wood, even with a full set of tools. It is more difficult when the work must be done with a knife only. Two models of the course require fitted joints. The unprotected blade of a sharp knife is one of the most dangerous tools, and very unsafe for the use of unskilled hands. If the knife is not sharp, accurate work with it is impossible.

The introduction of other tools would greatly increase the number of possible operations and would permit a more interesting type of projects, thereby strengthening the motive power of the work. The addition of the coping saw to the tools to be used would greatly increase the possible scope of the work. Coping-saw work offers opportunity for making mechanical toys, three-ply animals, balancing figures, and a great variety of projects which appeal strongly to the dominant interests of small boys and at the same time involve serious problems in mechanics. Mechanical toys offer a strong motive for good workmanship, since the toys must be



well made or they *will not work*. Work of this type may be presented in a way which will call into action the child's best thinking powers. Its best values are lost when the pupils are provided with accurately prepared plans exclusively. It is often better to exhibit a toy which they will wish to make, and let them study its mechanics and work out plans of their own. Variety in methods and dimensions is greatly to be desired, and attention should be directed to the value of one solution over another through a comparison and criticism of results.

These courses are also open to question through their lack of opportunity for initiative. If it is accepted that technical handwork shall develop ability to think and act independently, the subject matter chosen must in some measure require the worker to compare, choose and execute upon his own responsibility. When a definite course is planned by the teacher, and the pupil merely copies models, opportunity for this sort of development is very small. Granting that there is much to be gained in intelligently hearing or reading directions and executing them with faithfulness and accuracy, overemphasis on this point must tend to on-sidedness. The well-rounded course must allow for both factors. Frequently the same series of problems may be made more fruitful by presenting a blank model which the pupil is required to modify. For example, in the making of the paper knife—which a questionnaire shows to be the most popular model in the sixth grade—instead of requiring each pupil to copy one design, a variety of designs might be studied to find out which was most convenient and most serviceable. Sample knives brought from home would add to the general interest. After this study, each pupil might design and make a knife. While there probably would not be any very great variety in their designs, still each pupil would feel his product to be his own, into which he had put himself. This would add, also, to the motive power of the problem—a point in which these two courses are weak.

#### RECOMMENDATIONS FOR GRADES FIVE AND SIX.

The work of these two grades may profitably include work in paper and cardboard, such as the making of boxes, portfolios, writing pads, etc. Work of this sort offers abundant opportunity for applying and strengthening the pupil's knowledge of number and measurement. It also offers a field for applied design. As far as possible, the pupils should be allowed to plan the articles to meet their individual needs and tastes. This does not mean that they should do as they please and be satisfied with low attainment, but rather that the teacher shall watch for and encourage whatever fruitful ideas are expressed.

Basketry and bookbinding are also types of work well suited to these grades. Some work in these fields is already being done in connection with drawing, and is greatly enjoyed by the children, as shown by their answers to the questions, "What things in handwork have you enjoyed most?" and "What things would you like to make again?"

Pottery is another type of handwork which offers problems well suited to the capacities of pupils of the intermediate and upper grades, and which can be easily adjusted to the conditions of the regular classroom.

It does, however, require a zinc-lined cabinet in which to keep unfinished work, and access to a kiln for firing.

Work in the various materials used throughout the grades should be organized with a view to steady progression from year to year. For example, the making of simple booklets in the lower grades should develop into well-bound books in the upper grades. The informal use of paper and cardboard in the lower grades should develop by easy stages into accurately constructed cardboard work in the fifth, sixth and seventh grades.

#### GRADES SEVEN AND EIGHT.

In the seventh grade shop work is begun. The course includes a series of formal exercises in joinery, followed by practical application to such projects as a nail box and knife tray. Definite plans are provided for these, and each pupil works to the same dimensions, though each makes a working drawing of his own.

The eighth-grade work includes a series of exercises in wood turning, followed by a series of projects in elementary cabinetmaking, such as footstools, taborets, book racks, etc.

The boys who work in the shop take turns in taking charge of the tool room. This gives excellent practice in systematic care of the tools and a broad acquaintance with a variety of tools and accessories.

#### RECOMMENDATIONS FOR GRADES SEVEN AND EIGHT.

The emphasis in these courses is placed on accuracy and skill in tool practice, and some excellent pieces of work are turned out. The use of formal exercises at the beginning of the course is open to question, because of their lack of motive power and opportunity for initiative. It is easily possible to select a variety of projects which have a strong appeal to boys of this age and which also embody the fundamental tool processes. These processes may be more effectively taught in the making of such a project than in an exercise which consists only in fitting two scraps of wood together. It is possible to arrange a group of projects for each problem in tool practice, and require that one project in each group be made by each boy. This allows for choice in line with the worker's interest. It also permits varying degrees of difficulty in execution, which may be adjusted to the varying capacities of the members of the class, while orderly and definite progress in the mastery of tools is still maintained. Among the possible projects may be noted jumping standards, hurdles and other playground apparatus, kites, sleds, wagons, camp furniture, bird houses, water wheels and windmills, boxes for specific uses, and other things closely related to the daily needs of the boy. Many boys of this age are anxious to do things which are big and "grown up." In answer to the question, "What would you like to make?" there is a strong vote for tables, bookcases and porch swings. It may often be worth while to make large pieces which involve simple processes only, especially when made for a specific purpose. The making of a pine table of simple construction may be, in its place, as valuable a piece of construction as is the mortised table of oak at a later period.

It is also well to seize upon the chance needs of the school, which offer

an incentive to service as well as practical experience in work which must serve a definite purpose. Tables, shelves and other conveniences for the classroom, looms for the younger children, and similar needs, offer opportunities which justify breaking into the regular course of work for a time. The kits used by the sixth grade would have made an excellent problem, for example, if the need could have been foreseen long enough ahead for the classes to work upon them. Student work is necessarily slow, and the long intervals between lessons increases the time that must be allowed for the completion of a piece of work. A job of this sort, requiring duplicate pieces and accurate workmanship, offers opportunity for acquainting the boys with factory methods of division of labor and the time-saving process of specialization. The aquarium in the Oak Street School, built by the janitor, is another example. If built by the boys it might have given valuable experience in coöperative planning.

A course in handwork should provide, also, for special needs, as in the case of pupils who work more rapidly than the average student. One boy was found working upon one of the beginning exercises, who explained that he had made a table, but as he had completed the course, there seemed to be nothing to do but start at the beginning and repeat it. Ability and industry which enable a boy to complete a course in less than average time should be rewarded and encouraged by advanced work of a particularly interesting type. It is a good time, when his wants are reasonable, to let him make what he "wants to make."

It is suggested that the course be enriched by occasional projects based upon industrial problems of immediate interest, such as the building of miniature machines and mechanical apparatus. Such work, while necessarily crude and imperfect in its details, involves a serious study of fundamental principles and a careful adjustment of parts. For example, the beginners in shopwork in the sixth grade of the Horace Mann School in New York City made water wheels, different boys making different types of wheels. Later they set up a miniature factory with a number of small machines, each made by a small group. When the belts and shafting were all in place, a water wheel was attached and the power turned on. Needless to say, many trials were made and much studying of cause and effect was needed before the small factory was in good running order. Many visits to real factories were made, and all helpful literature studied with deep interest. Among other projects carried out in the same school were the building of a freight station of reinforced concrete, with tracks and cars, and the manufacturing of an electric street car, which was made to travel around a six-foot circle of hand-made track by power transmitted through a small handmade dynamo. Work of this type tends to awaken an intelligent interest in the big fundamental principles underlying mechanics and to stimulate a desire to know more and become more skillful. In these points it offers a better preparation for later study and practice in technical processes than much of the more formal work common in school courses. In the one the pupils are generally active, alert, thoughtful and resourceful. In the other they are often passive, waiting for directions, and they lean heavily upon the teacher instead of depending upon themselves. In this newer type of

work the pupil has a problem to solve and must bear much of the responsibility for its solution. It permits individual initiative and supplies a strong motive for work, because the pupil is able to express his own ideas freely and is interested in what he is doing. The older type of work is often formal and mechanical. It is often weak in motive power, and opportunity for individual initiative is almost wholly lacking, because the pupil has only to follow plans and directions prepared by the teacher. The teacher, rather than the pupil, does the thinking.

Whether handwork is to be taught as a means of general culture or with a definite vocational aim, it will fail of its purpose if the thought side is neglected. The mechanic who works with his head as well as his hands is the man who succeeds. Unless the work is so planned that the pupil *must think his way through* a process, much of its cultural value will be lost. Mere ability to construct, under careful supervision, a hammer handle which is worth only a few cents in the market may be a very empty accomplishment. On the other hand, a study of patterns and materials, followed by a choice of the most suitable, and the planning and shaping of the hammer handle to the needs of the person who is to use it, may bring about a brain-stretching which parallels the muscular development to be gained through the mastery of the tools. Whether these more important values are to be secured depends upon the method of teaching even more than upon the choice of subject matter.

It is further suggested that greater use be made of the type of work described as illustrative handwork. Such work is largely the province of the regular teacher, to be used by her when it offers the best means of effectively presenting a topic. Its value depends chiefly upon the extent to which the work becomes to each pupil a real problem in which he feels personal responsibility for the solution.

## CHAPTER XIX.

## PHYSICAL TRAINING IN THE GRADES.

Walter R. Smith.

THREE kinds of physical training are needed in the grades. The first and most fundamental is play. The second is calisthenic or gymnastic drill. The third is corrective and remedial work. Each of these has its proper place and should be assigned that place in a well-regulated school program.

In regard to the first of these, it may be said that play has always been regarded as the central feature of child life. Our schools long overlooked this primary fact. It was only recently, with the coming of the kindergarten and its influence upon the grades, that the basic principle of child development was given any proper place in the school curriculum. Even yet it makes its way slowly up through the primary grades, gradually losing its hold through the intermediate and advanced grades. And as this fundamental basis of child growth is lost sight of, the work of the school becomes less vital to the child's life, less effective in securing the child's interest and intensive effort, and more irksome to both child and teacher. No child wants to quit the kindergarten, few care to quit the primary grades, but as the child is gradually lost sight of in a logically arranged course of studies which we older people, from our superior heights, try to force down upon him, he loses interest, ceases to strive, and our national records show that at least seven out of eight drop out of our educational mill before they leave the grades.

## THEORIES CONCERNING PLAY.

The attitude toward play which leads to our present varied treatment of it may be analyzed into three theories regarding it. The first is that it is dangerous—an unavoidable evil which should be restricted as far as possible. The second is that it is natural, harmless and useless, and that the child does not need training for it. The third is that it is a fundamental means of training for life, and hence it is the proper point of departure for all education. The first is puritanism and has been discarded; the second dominates the public mind and the traditional school; and the third has made the kindergarten, now rules the primary grades, and is rapidly revolutionizing the work of the upper grades.

This broader view of play as the dominant characteristic of the child calls for serious treatment of it in every phase of school work. He takes play seriously, and if we take him seriously we must do the same. Every movement in dealing with the child must be from his central interest outwards. We must build upon what he is, not upon what we hope he is to become. We have learned this in teaching him the abstract subjects of reading, writing and numbers; but, strangely, after discarding the purely disciplinary idea elsewhere, we have clung to it in physical training, which is the most concrete and natural field

for avoiding it. Play should be made the solid foundation upon which to build all physical education; but it is not generally so well founded in our public schools, nor, as we shall see, is it in Leavenworth.

#### GYMNASTICS.

The second kind of physical training to be expected is calisthenic or gymnastic drill. For this the body is divided up into sections and scientifically analyzed. A logical series of exercises is prescribed, which, if gone through with, guarantee the exercise of all parts of the body. Coördinated movements are arranged for and enforced by drill. These coördinations start in simple movements and grow complex as the pupil progresses. They call for concentrated attention, obedience, correct posture, and abundant and varied muscular and organic exercise. Used in proper proportion, and well taught, calisthenics form a valuable adjunct to play in physical culture. But there is constant danger of the drill becoming mere drudgery, in which case the educational value largely disappears. Motives appealing to the child, and a moderate amount of initiative, must be obtained to keep the set exercises educative.

#### CORRECTIVE PHYSICAL TRAINING.

The third type of physical training needed is remedial and corrective. Physical defects and constitutional weaknesses are generally enhanced by neglect. We prefer to exercise our strong muscles, organs and aptitudes to the neglect of the weaker ones. This may intensify the native weakness. To prevent such specialization, corrective work should begin while the pupil is young. Calisthenics and gymnastics, by exercising the whole human mechanism, are partly remedial, but they are not sufficient. The full purpose and value of physical-training work can not be realized until supervisors are able to give physical examinations and prescribe corrective work. Such examinations and prescriptions are frequently given in collegiate work. They are more needed in earlier years, but probably it is too much to expect of public schools that they do scientific corrective work at present. But physical training should look ever toward it as an ideal.

We are now ready to apply these three tests—play, calisthenics, and corrective gymnastics—to the physical-training work of the Leavenworth Public Schools. By them it is to be measured, not judged.

#### THE COURSE OF STUDY.

A careful analysis of the outline of work in physical training shows much that is commendable, but to harmonize it with the ideas previously advanced it needs revision at three points. Since these weaknesses, as the writer considers them, are quite general over the country, and are not eliminated in Leavenworth practice, they need to be pointed out.

The first one is in the idea embodied in the use of the term "physical development." We have given up the term "intellectual development" as synonymous with education. It expresses only one phase of the broad significance now attached to the educational process. But physical training is new in our schools, and the old, narrow conception dominates the public mind regarding it. "Physical development" indicates that a sound

body is all that is to be striven for in physical education. A strong and healthy body is eminently worth while; but true physical education means far more. It means the utilization of the youthful love of physical activity for education in its broader aspects. If we are to build our school program upon the child as he is—and all our present educational theories demand that we do—then wide use must be made of his love of play and exercise. Physical training reacts so intimately and powerfully upon mental and moral training that mere physical development should be only one feature of it. An adequate conception of the value of play is shown in the statement of the course of study for the primary grades, but this conception should be specifically dealt with when outlining physical education.

The second feature of the outline needing revision is the "aims" of physical education. In the six aims stated in the course of study there is no hint of social or moral values to be obtained. They are previously pointed out with reference to the primary grades, however. Health, growth, order and exactness, alertness and quick reaction, endurance, are to be developed. Nothing is said about coöperation and fellowship, which can be more easily stimulated in team games than anywhere else in life. No mention is made of the primary ideals of loyalty, love or fair play, chivalry in victory and cheerfulness in defeat, which are the natural outgrowth of a properly used playground. Nor is there any mention of obedience or self-control—the largest educational returns from gymnastic drill.

The third revision needed is in the emphasis placed upon gymnastic drill. This might seem to be justified by the lack of playgrounds about the school buildings. But a closer analysis shows that to be one of the very reasons for shifting the emphasis. Most of our national and inherited games call for a large amount of space. When this can not be had there is all the more reason for teaching games that can be used on small playgrounds and which call for the same coördinations, the same ingenuity and dexterity, the same mental, moral and physical powers demanded by the regulation games American children are in the habit of playing. Baseball, football, basket ball, dare base, running, leaping and throwing games, call for space. And, since this is not to be had in Leavenworth at present, children should be taught other games which produce the same development that makes the above-mentioned games so valuable. Indoor baseball, volley ball, tether ball, basket ball and a large number of similar games now being taught in physical-training schools meet these demands.

So the excuse generally offered by school authorities for placing most of the stress on calisthenics can not justify it. Simple gymnastic drill ten minutes a day is merely scratching the surface of a rich field of usefulness. The school yard is properly mentioned in the course of study as the preferred place for these exercises, but the brevity of a ten-minute period might easily lead to the use of study rooms or corridors in place of the yard. The course of study might profitably be revised, much enlarged in scope and suggestion, and means of correlation with other phases of teaching work pointed out. This can easily be done without

sacrificing any of the idea of health and physical development. In fact, the effectiveness of physical training in promoting health and longevity depends to a large extent upon its harmonious adjustment to other phases of school work and the life that is to follow.

#### FACILITIES IN LEAVENWORTH.

Leavenworth has a well-trained and efficient part-time supervisor of physical training. Each room is met at least every two weeks. Several classes in calisthenics were observed. Some were directed by the regular teachers and some by the supervisor. Also a full list of the exercises prescribed for the current year from its beginning until April 1, including all the grades from one to eight, were examined. A typical one, to be practiced ten minutes a day for two weeks, follows:

#### PHYSICAL DEVELOPMENT.

##### GRADE 7.—DUMB-BELLS. LESSON 6.

1. HOPPING: Hop on the ball of left foot 8 times while making a complete turn to the left, quickly change on the right and turn right about, each in 8 counts.
2. Raise arms forward and lower (1-2). Same sideward and lower (3-4).
3. Raise heels and bells on shoulders and return (1-2). Dip left sideward and raise arms to the left sideward and return (3-4).
4. March forward 4 steps (1-4). Face left in 4 steps (5-8). Bells on shoulders (9). Straighten upward (10), on shoulders (11). Lower arms (12). Repeat arm exercise (13-16). Do 4 times.
5. Bells on hips (place). Lower trunk forward and straighten arms sideward and return (1-2). Elevate chest and straighten arms upward and return (3-4).
6. Point step and raise arms forward (1). Raise left knee and move arms sideward (2). Return movement (3-4). Same right (1-4).
7. Stride left sideward and bells on hips (1). Bend left knee trunk left and straighten arms upward (2). Return movement (3-4). Same to the right (1-4).

GAME.—Toss Chase Ball. Form a large front circle, standing close together. Medicine or basket ball may be used. A pupil stands in the center. Some one in the circle will have a ball, who will toss it to some one else. While this is done the one in the center will try and touch the ball; if so, those two will change places, etc.

Many of the exercises prescribed were quite properly without apparatus. Some were without the game at the end. The apparatus at hand consisted mainly of dumb-bells, Indian clubs, and wands. The games were generally very simple ones, not calling for thought or special ingenuity, and were evidently given to produce an exhilarating finish to the less interesting drill. Simple games would be necessary if put at the end of a brief ten-minute period. No suggestion of alternating the game and calisthenics was observed, and the evidence indicated that the game was not featured as educational; nor was it given at all with any degree of regularity, as the writer found when he wanted to see one.

#### THE VALUE OF PHYSICAL DRILL.

The value of a certain amount of physical drill is not to be questioned, however, if taken under educational conditions. It is intensity of effort that develops. But it may well be doubted whether calisthenics as an end, given to the count of 1, 2, 3, 4, 1, 2, 3, 4, without any motive, can produce intensity of effort, either mental, moral or physical. Yet drill, as a means to an end, can be made intensive, as shown by the annual field meets. They are given the last of April and provide an excellent temporary



motive. Competitive drills or public exhibitions have the same effect. But the pupil's interest in the perfection of the coördinations called for must be present to make the drill educative, and that is impossible while using calisthenics as the sole means; or health or rounded development as an end. The pupil, as pointed out by Dr. Frank A. McMurray, is not bothering about his health; "he would be in an unhealthy state of mind if he were." He is not willing to put forth much effort for the purpose of obtaining a sound mind in a sound body. Activity, life, struggle, he loves. But the end must be in view, even as with an older person. Calisthenics are useful in proportion as they can be organized so that the pupil may have a present motive or purpose, be allowed some decision and initiative, and work at all times with some desirable end definitely in view. This means that instead of being the foundation of physical education, gymnastic drill should be merely one of the pillars supporting the superstructure.

#### CHANGES NEEDED.

If the physical training offered in our schools—and the Leavenworth schools are typical in this respect—is to fulfill its highest purpose, three things need to be done. First, the periods should be lengthened. If time is at such a premium the periods might be put farther apart. It is stated in the course of study that this work is not to take the place of recesses, and it can not. So enough time should be taken each period to teach something worth while. Other recitation periods, even for the minor studies, are at least double the length of the period of gymnastics. And yet, if physical training is well done, who would maintain that it is of less importance than other studies of the curriculum? Lengthening the period, then, is the first essential of a more effective physical-education program.

The second essential is that special rooms must be provided where the extra noise of this work will not interfere with other rooms, and where there is sufficient free space for marching, dancing and the more complex games. Fortunately, this can be done in several of the buildings, and is being planned for in the repairs to be made during the coming summer. The Staff are united in the belief that this is one of the prime essentials calling for the careful attention of the architect, the board, and the supervising force of the schools. Little of the work really needed can be done with the present unsatisfactory provisions and equipment.

The third essential is a revision of the emphasis placed upon the relative values of the work offered as physical training. The play element must receive much more attention. Routine drill is merely the a-b ab, e-b eb of physical education. It has the same relation to physical culture that spelling drill has to reading, number drill to arithmetic, and date drill to history. Swinging an Indian club has little more educational value than swinging an ax or a hoe. The whole set of light-apparatus drill provides little more physical training than "doing the chores," and much less moral value. What is needed is stimulus and heroic effort.

Compare them for a moment with the game of basket ball. Basket ball calls for speed, agility, manual dexterity, endurance, deep breathing, all sorts of coördinations and accuracy, and the exercise of every part of

the body. On the mental side it demands initiative, quick thinking, judgment, decision, and the varied technique of team work. On the moral side it requires control of the temper, fairness to opponents, coöperation with associates, and self-sacrifice for the good of the team. Every physical, mental, and moral power is exercised intensively, educatively, and the pupil is trained in the sort of reactions called for in the social, political and business world.

What is true of basket ball is true of other highly organized team games. But it may be said that this is too strenuous for a large number of pupils, especially the girls. Does not every teacher plead for intensive work along his line? Do not all boys and girls love strenuous work? Is not that the way they play on the playgrounds? Moreover, all do not need to play all the games. One of the great purposes of a supervisor is to see that they do not. Pupils may be graded in their games, as in other parts of the curriculum, according to their needs and abilities.

Games, however, are not all. Folk dancing and other emotionally expressive physical exercises have all the cultural value attributed above to team games. They call for varied mental and moral as well as physical exercises. Intensive effort is obtainable. Motive, organization, initiative and physical self-control are all provided for. They are truly educative, and gymnastic drill can be only when founded upon the same child interest and calling for the same varied efforts present in the game and the folk dance.

#### CORRELATION WITH OTHER STUDIES.

Still another feature, already developed to some extent in the Leavenworth schools, should be emphasized. Physical training should be correlated with other phases of school work. A nature-study trip into the country is excellent physical training. They are suggested in the course of study for grades 1, 2 and 3, but are as valuable later in the course. A walking trip to a track meet or baseball game or to the golf links, with explanations to pupils, is likewise educative. These stimulate an interest in physical training and health-giving exercises that will be carried into real life. Above all, the physical-training work should be linked up with playground supervision. What is taught in the classroom should function on the playground at recess time. The games should there be practiced under pupil initiative and control. Contests of various kinds, demanding all sorts of qualities, and graded according to size and strength and ingenuity, should be encouraged. School athletics and physical training should also be linked with the summer playground work recommended elsewhere.

One of the interesting observations in Leavenworth was that two of the three large schools have almost no playgrounds. They are built upon city lots with just a few feet of space to the sidewalks. In each of these buildings the observer found a strong effort to cultivate the recess period. The grounds were well supervised, the teachers played with the children at times, and seemed to feel the same responsibility for the educational use of this time as of the other school time. With heavy handicaps, much was being done. The third of these larger buildings has ample playgrounds, being built near the center of a

whole block. This school was having no recesses at all at the time the survey was being made. This was doubtless temporary, but it indicated too little attempt to make use of the play instinct of the child in his education.

Moreover, the patronage of this school is mainly of the middle and poorer classes, where the houses are small, lawns wanting, play space cramped, and home conditions frequently unfavorable. All these together form a basis for the most effective use of play and other forms of physical training. School spirit and loyalty could be built up around the playground. The lack of brightness and cheer in many of the homes could be partly counteracted in the school. Many a boy and girl could thus be saved from dropping out of school and from going out into the life of Leavenworth unprepared to spend his leisure time in clean recreations or his work time in remunerative employment. Jacob A. Riis has truly said that "the boy without a playground is father to the man without a job."

#### FORMING THE HABIT OF PLAY.

While questioning the value of the emphasis placed upon drill in the physical-training work in Leavenworth, the writer is glad to point out that what is attempted is well done. The drills observed were more than perfunctory. The pupils were developing some valuable coördinations and couple movements. But it is a little hard to imagine them following up these activities in after life. Gymnastic drill, if indulged in in later years, remains a conscious effort, while games stimulate an unflinching interest that brightens life, even though they be discarded as a means of recreation. But they will not all be discarded if the habit of play is developed during youth. The mad rush of American life needs to be checked by wholesome recreation. Our athletic revival during the past two decades has already done much to relieve the strain and nervousness of our people. Its further extension into the elementary schools will do much to give to all of our public-school children much of the valuable training now obtained by higher-class Englishmen. Concerning their training Doctor Curtis says:

"One of the best things about the system of physical education in the typical English preparatory and public school is that the students are supposed to get out and play every afternoon, as soon as their lessons are over. These exercises are practically required up to the sixth form in the public school, and by that time the habit has been so well established that the student continues to play during his university course and probably during the rest of his life, from the force of this early custom."

#### PLAY AS A PREVENTIVE OF DISORDER.

One other point remains to be mentioned. It was pointed out in the analysis of Leavenworth that organized amusements were lacking. The gaming spirit, which is perfectly natural and highly useful, must be properly directed or it will find an outlet in illegitimate channels. One's taste in games should be cultivated as carefully as his taste in literature. One's recreations should be as clean as his business transactions. McMurray well says: "Physical training should develop an interest in play, a knowledge of games, and a skill in them, that will

permanently identify one with healthy sport, just as literature should develop a taste for reading and nature study a permanent enjoyment of plants and animals."

If Leavenworth or any other city is to close up evil resorts of all kinds there is no better way to go about it than to provide legitimate amusements to undermine them. If they are to be eliminated in the future, a generation of citizens must be trained up who know how to amuse themselves in a better way. If proper athletic and play interest are stimulated in the schools, the future city will not be without golf links, baseball parks, public tennis courts, supervised playgrounds, and the varied paraphernalia necessary to provide healthful physical recreation as a preventive of disorder, vice, stagnation, and sentimentalism. No better moral and governmental and business investment can be made by Leavenworth than that in additional play stimulus and facilities. And the best place to begin, in order to get far-reaching effects, is in the elementary schools.

## CHAPTER XX.

## READING AND LITERATURE.

Minnie E. Porter.

NO ATTEMPT was made in this Survey to determine the reading rate of the pupils. The test which Mr. Courtis has recently offered would be an interesting and valuable problem of study for the teachers. It is recognized that the value of reading as a tool is largely dependent upon the rate of reading as well as upon the ability to understand what is read.

## THE COURSE OF STUDY.

The program for the teaching of reading provides for the use of the state textbooks, *Studies in Reading*, by Searson and Martin. The Fourth Reader is used in grade four and the Fifth Reader in grade five. As no textbook is prescribed for grades six, seven and eight, the superintendent and teachers are free to select literature suitable for reading in these grades. In their choice they have recognized the sources of interest in the reading of pupils of this age. We find such selections as "The Pied Piper of Hamelin" and "Rip Van Winkle" in grade six; "Miles Standish," Cooper's "Tales" and the "Oregon Trail" in grade seven; "Evangeline," "The Lady of the Lake" and "Julius Cæsar" in grade eight.

The use of supplementary readers in the schools of Kansas is prohibited by state law. As a result of what is assumed to be an effort to safeguard the interests of the people of the state, a serious limitation has been placed upon the education of boys and girls in Leavenworth. The school authorities of Leavenworth have made a commendable effort to overcome this limitation upon the reading of boys and girls by establishing a circulating library, for which they are making liberal provisions. They are in sets of thirty volumes, each set in a box. These acts are kept at the office and sent out to teachers upon application.

## GRADE IV.

- Story of Holmes. Literature.
- Story of La Salle. History.
- Story of Longfellow. Literature.
- De Soto. History.
- Marquette. History.
- Story of Boone. History.
- Pioneers of the West. History.
- Fremont and Carson. History.
- Stories and Rhymes of Woodland. I. Literature and Science.
- Stories and Rhymes of Woodland. II. Literature and Science.
- Story of Coal. Science.
- Story of Wheat. Science.
- Story of Cotton. Science.
- Story of Printing. Science.
- American Inventors. (Whitney and Fulton.) Science. I.
- American Inventors. (Morse and Edison.) Science. II.
- Night Before Christmas, and Other Christmas Poems. Literature.

## GRADE V.

The Miraculous Pitcher. Literature. *Hawthorne*.  
 Audubon. Science.  
 Nathan Hale. History.  
 Story of Sugar. Science.  
 What We Drink. Science.  
 Story of Canada. History.  
 Story of Mexico. History.  
 Story of Steam. Science.  
 Story of the Flag. History.  
 Stories from Robin Hood. Literature.

## GRADE VI.

King of the Golden River. Literature.  
 Rab and His Friends. Literature.  
 We are Seven, and Other Poems. Literature.  
 Lady of the Lake. Canto I. Literature.  
 Declaration of Independence. History.  
 Thanatopsis, and Other Poems. Literature.  
 Snow Image. Literature.  
 Gifts of the Forest. (Rubber, Chincona, Resin.) Science.  
 Great European Cities. (London and Paris.) Geography.  
 Great European Cities. (Rome and Berlin.) Geography.  
 Great European Cities. (St. Petersburg and Constantinople.) Geography.  
 Heroes of the Revolution. History.  
 Lewis and Clark Expedition. History.

## GRADE VII.

Story of Macbeth. Literature.  
 Philip of Pokanoket. Literature. *Irving*.  
 Lady of the Lake. Canto II. Literature. *Scott*.  
 Snow-bound. Literature. *Whittier*.  
 The Gray Champion. Literature. *Hawthorne*.  
 The Oregon Trail. History. *Parkman*.

## GRADE VIII.

The Deserted Village. Literature. *Goldsmith*.  
 As You Like It. Literature. *Shakespeare*.  
 Lady of the Lake. Literature. *Scott*.  
     Canto III.  
     Canto IV.  
     Canto V.  
     Canto VI.  
 The Cotter's Saturday Night. Literature. *Burns*.  
 Lay of the Last Minstrel. Literature. *Scott*.  
 Building of the Ship, and Other Poems. Literature. *Longfellow*.

## THE TEACHING OF READING.

For constructive recommendations for the teaching of reading in Leavenworth, illustrations have been found for each point in exceptionally good work seen during observation in the classrooms. It is recommended that in the organization of departmental meetings the significant points of merit in the work of teachers may be made helpful to all in this line of work.

There are two points of commendation for the teachers of reading in Leavenworth. The teachers have done their work carefully and thoroughly in teaching the mechanics of reading. By means of an articulation chart, careful drill is given in enunciation. The pupils read clearly and distinctly. The second point of commendation is that the pupils read with

understanding. The teachers are careful to make sure that reading for information yields the desired result. The library reading provided furnishes opportunity to use the reading hour for this purpose.

But in a third point so necessary to the interpretation of real literature, imaginative or creative reading, the teachers are not generally so successful. In some cases they fail to distinguish between reading for information and reading for the sake of entering through imagination the delights of literature. As a consequence, questions asked by the teacher call for information rather than the result of creative imagination. For example, in the reading of "The Pied Piper of Hamelin," if the teacher asks such a question as, "What did the Piper do next?" she would receive the answer, "He led the children down to the sea." This is information plainly given in the poem and has nothing to do with interpretation. On the other hand, if the teacher asks such a question as, "What did the children do under the hill?" this would call for the results of creative imagination, and the children would be only too happy if the imagination were given free play. The writer observed a lesson on "The Pied Piper of Hamelin" in which the children had entered wholly into the experience of those German children who followed the Piper. The writer felt this so strongly in her observation that she put in quickly the question, "How many of you would have followed the Piper?" and received an affirmative response at once from all the boys and girls in the class except three sedate little girls, upon whom the others in the class looked with some pity.

A lesson was observed in grade five in which the teacher had followed the suggestion, "Getting into the atmosphere of the piece." The lesson was the preparation for and the reading of the poem, "The Use of Flowers," in *Lessons in English*, by Scott-Southworth, page 144. In the word study the teacher did not deal with the dictionary definitions. She talked with the children freely about luxuries until they brought out of their experience those things which were luxuries to them. They translated the word comfort in terms of actual life. The teacher talked with them about the things necessary for their outward life, and brought these into contrast with those things which delight and comfort people, as flowers do. When the children opened their books to read the poem for the first time, they brought to that poem a fresh understanding of those things within their own experience which made the reading of the poem creative. After reading silently the poem, which contained these lines:

"To comfort man, to whisper hope,  
Whene'er his faith is dim";

the teacher asked if any one could tell what flowers do for the inner life. She was rewarded by the shining eyes of a little fellow who replied, "Flowers hope up man." This lesson had succeeded.

#### THE OUTSIDE READING OF PUPILS.

The schools, in teaching pupils to read, have given to boys and girls in their early teens a power to extend their life experience, which at this age is demanding a wider field of adventure. Through the identification of self with the hero or heroine of fiction, these young people are growing

rapidly in their ideals of manhood and womanhood. Later life furnishes the opportunity to give expression to these ideals in a world of action. Just what influences are most powerful in the early teens may be discovered in books which are most widely read. It is this world of the imagination that is making a marked contribution to the moral development. Franklin K. Mathews, Chief Scout Librarian of the Boy Scouts of America, writes of "Your Boy and His Books" as follows:

Find the stories in which the heroes have the characteristics the boy so much admires—men of unquenchable courage, immense resourcefulness, absolute fidelity, conspicuous greatness; the men who do things, big things, wonderful things; the men who conquer and overcome in the face of the heaviest odds, who "never turn their backs, but march breast forward, to do or die." For the boy, that spirit is the stuff of which great manhood is made; and if with books we would profoundly influence him, we must constantly challenge him with stories of astonishing accomplishments, biographies that hold him spell-bound, wonder tales of almost unattainable undertakings achieved.

As an attempt to study this problem in Leavenworth, one question, "What books have you read during the past year?" was placed in the pupil *questionnaire* used in the Survey. The data collected and classified for this report, with the assistance of the school department librarian at the Kansas State Normal, will be suggestive.

In the tabulation the books have been arranged in the order of the number who expressed preferences for them. In another column appears a classification of the quality of each book, ranking A, B, C, or D. Books marked A are of first quality in the list, for one of two reasons—literary merit or high grade of subject matter. Those marked B are ranked lower in literary merit, but are considered good reading. Books marked C are those which serve to bridge over the reading of pupils who have not developed a taste for reading which is satisfied by those in A and B. Books marked D are books which are recognized as being harmful, although often very popular. Their success depends upon the elements of adventure which appeal to boys, and to a weak, self-centered heroine who sometimes appeals to girls of this age. The Rover Boys, Motor Boys, Alger Books, and Elsie Books are the conspicuous examples of this type of juvenile fiction.

The tabulation of data collected is submitted as follows:

No.	Title.	Rank.	No.	Title.	Rank.
59	Rover Boys .....	D	8	Ben Hur .....	A
55	Alger Books .....	D	8	Jack Books .....	B
39	Motor Boys .....	D	8	Patty Fairfield Books.....	C
29	Alcott Books .....	A	7	Lake Port Series.....	D
29	Dorothy Dainty .....	D	7	Pollyanna .....	B
26	Shakespeare's Plays .....	A	7	Rip Van Winkle.....	A
22	Dave Porter Books.....	D	7	Treasure Island .....	A
21	Little Colonel Books.....	C	6	Beautiful Joe .....	B
20	Lang's Fairy Tales.....	B	6	Courtship of Miles Standish.....	A
16	Boy Scout Books.....	D	6	Prudy Books .....	D
16	Uncle Tom's Cabin.....	A	5	Betty Wales Books.....	C
15	Snow-bound .....	A	5	Life of William Cody.....	—
10	Five Little Pepper Books.....	B	5	Oregon Trail .....	A
9	Black Beauty .....	B	5	Story of Lincoln.....	B
9	Evangeline .....	A	5	Tom Sawyer .....	A
9	Helen Grant Books.....	D	4	Bible .....	A
9	Lady of the Lake .....	A	4	David Copperfield .....	A
9	Robinson Crusoe .....	A	4	Dotty Dimple Books.....	D



No.	Title.	Rank.	No.	Title.	Rank.
4	Girl of the Limberlost.....	C	2	Battling Nelson's Career.....	D
4	Last of the Mohicans.....	A	2	Billy Whiskers.....	D
4	Legend of Sleepy Hollow.....	A	2	Boat Club Boys.....	D
4	Little Shepherd of Kingdom Come..	A	2	Boy Fortune Hunters.....	D
4	Only an Irish Boy.....	D	2	Carpenter's Readers.....	A
4	Perfect Tribute.....	A	2	Christmas Carol.....	A
4	Quest of the Four.....	B	2	Dickens' Works.....	A
3	Andrew's Great Pluck.....	D	2	Elsie Dinsmore Books.....	D
3	Custer on the Plains.....	C	2	Flying Girls.....	D
3	Dutch Twins.....	A	2	Girls of the Forest.....	D
3	Freckles.....	B	2	Gray's Elegy.....	A
3	Gifts of the Forest.....	A	2	Great Stone Face.....	A
3	Helen's Babies.....	B	2	Hard Working Girls.....	D
3	Hoosier School Boy.....	A	2	John Halifax, Gentleman.....	A
3	Ivanhoe.....	A	2	Juan and Juanita.....	B
3	Kit Carson Books.....	—	2	King of the Golden River.....	A
3	Nathan Hale.....	A	2	Life of Washington.....	A
3	Pilgrim's Progress.....	A	2	Mrs. Wiggs of the Cabbage Patch..	A
3	Poe's Poems.....	A	2	Old Rose and Silver.....	D
3	Rondy Books.....	D	2	On the School Team.....	B
3	Sinking of the Titanic.....	—	2	Peck's Bad Boy.....	D
3	Story of Canada.....	A	2	Peggy Owen Series.....	D
3	Stratemeyer Series.....	D	2	Rab and His Friends.....	A
3	We are Seven.....	A	2	Rebecca of Sunnybrook Farm.....	A
3	Wild West.....	—	2	Story of Carson and Fremont.....	A
3	With Washington Out West.....	—	2	Story of Mexico.....	A
3	Young Trailers.....	B	2	Sweet Girl Graduate.....	D
2	American Boys' Handy Book.....	A	2	Swiss Family Robinson.....	A
2	Anne Green Gables.....	A	2	Trail of the Lonesome Pine.....	A
2	Aunt Jane's Nieces.....	D			

In this tabulation only those books that were mentioned more than once were considered. A study of the number of times each book is named in the list shows that 44 per cent, or nearly half, of the reading done by the pupils in grades six, seven and eight is of the class marked D. In this class are found the Rover Boys, Alger Books, Motor Boys, and Boy Scout Books, widely read in Leavenworth. No comparative data are at hand to show the results in other cities, because these books are not included in library reports. But since book dealers find them commercially profitable when offered for sale, without consideration of the welfare of the boys of the city, we may be led to believe that in cities and towns where these books are sold the records would be similar.

The libraries of the city, both public and Sunday-school libraries, share with the schools and the homes the responsibility for intelligent direction in the matter of reading. As stated before, the public library is doing active work in coöperation with the schools. On their shelves are some books of class D which the librarian has retained temporarily that boys and girls may find the books they ask for, and thus give him an opportunity to bridge them over to something better later on. In one large Sunday-school library are found the Rover Boys, Motor Boys, Alger, and Elsie Books, which are being supplied to the children. They have, no doubt, been selected on the recommendation that they are the books which boys and girls like best, without consideration of the influence which they have upon character formation.

Since it is believed that the books which boys and girls are reading are influencing them, and since almost one-half of the reading done by the boys and girls in Leavenworth in grades six, seven and eight is of a character which identifies the youthful reader with ideals that are false to the best in American manhood and womanhood, the home reading of boys and girls must be a matter of serious consideration to all who are interested in the welfare of the young people of the city.

## CHAPTER XXI.

## SPELLING.

Walter S. Monroe.

## THE TEACHING OF SPELLING.

**SPELLING** is taught systematically in all grades, and 7.9 per cent of the total time of the teachers if given to the subject. See page 59. The work in grades five to eight is based primarily upon a printed list which has been prepared by the superintendent and the teachers. In this list they have attempted to place the words which make up the speaking and writing vocabulary of pupils in the respective grades. In addition, the teachers are urged to keep, and do keep, lists of misspelled words, which are used for occasional lessons.

## THE SPELLING ABILITY.

The spelling ability of the pupils was measured by giving a test to all pupils in grades three to eight, inclusive. This test was given in Leavenworth simply as an exercise in dictation, the pupils not knowing that they were to be marked for spelling. The directions and test are given below.\*

## DIRECTIONS FOR GIVING SPELLING TEST.

Please read these instructions through before beginning to dictate the sentences:

1. See that *each sheet* is headed with (a) the pupil's name; (b) his age; (c) number of years he has been in school; (d) the grade; (e) the date; (f) the name of the school.
2. Dictate all the sentences to all the grades, beginning with the third, during one session; *i. e.*, all either in the morning or the afternoon of the same day.
3. In third and fourth grades dictate in two periods, separated by a day.
4. Each sentence may be dictated, either in whole or in part, as many times as may seem necessary to secure its complete understanding. This exercise is purely a test in spelling; it is not intended that pupils should be subjected to the added difficulty of an effort to recall the words dictated.
5. Offer no explanation of words or sentences. If the meaning is not clear, repeat the sentence in whole or in part.
6. Do not ask the children to underline words, or otherwise call their attention to the significant words of the sentences. Where possible so to conduct the matter, the pupils are not to know that it is a spelling test. To them it is but a dictation exercise.
7. After the children have written the sentences, read them all through again and allow pupils to insert words or make other corrections.
8. Don't hurry; but keep things going fast enough so that pupils will not have time to examine into what their neighbors are doing, or to give help to each other.
9. When third and fourth grades have written half the list, take up the papers and hold them until the second dictation. Then give them out again for the pupils to finish.
10. Collect the papers as soon as the work is finished.

## SPELLING TEST.

If the *janitor* sweeps, he will *raise* a dust. Wait *until* the *hour* for *recess* to *touch* the *button*. *Whose answer* is *ninety*? *Smoke* was *coming* out of *their chimney*. *Every afternoon* the *butcher* gave the dog a *piece* of meat. *One evening* a *carriage* was *stopping* in front of my *kitchen*. I wear a number *thirteen* collar. *Guess* what made me *sneeze*. Send me a *pair* of *leather* shoes. I do not *know*, but I am *almost sure* they are mine. My *uncle* *bought* my *cousin* a *pretty watch* for *forty dollars*. The *soldier* *dropped* his *sword*.

\* The directions, test, and comparative data were furnished by Dr. J. F. Bobbitt.

Jack had a *whistle* and also *twelve nails*. The *ocean* does not *often freeze*. You should *speak to people* whom you meet. It takes only a *minute* to pass *through* the gate and *across* the road. Did you ever hear a *faery laugh*? The *American Indian* had a *saucer* without a cup. *Neither* a pear nor a *peach* was at the *grocery store* to-day. Cut up a *whole onion* with a *handful* of beans. My *piano lesson* was *easy*. The *animal* ran into the road and *straight* against a tree. I *believe* true friends like to be *together* instead of apart. *Telephone* me on *Tuesday* if the *tobacco* comes. The *tailor* sent a *saucy telegram*. *Already* the *circus* was *beginning*. *Pigeons* seem too *beautiful* to quarrel. I am *trying* to choose a *towel*. The *chicken* was *fried in grease*.

(Adapted from Buckingham: *Spelling Ability*.)

In marking the papers, only the one hundred words in italics were considered. Mistakes in the spelling of other words were not counted or noticed in any way.

TABLE XXXII.

*The Median Spelling Scores by Grades.*

Grade	III.	IV.	V.	VI.	VII.	VIII.
Average for 40 schools	36	58	72	82	88	92
General average for Leavenworth	37.5	59	69.4	77.1	81	85.6
Morris	38	51	65	72	79	85
Oak Street	18	65	59	77	83	89
Third Avenue	54	55	70	76	81	83
Lincoln	28	33	64	82	78	76
Sumner	57	63	76	80	84	95
Franklin	24	64	70	73	..	..
Maplewood	36	60	52	65	..	..
Wilson	38	61	93	92	..	..
Jefferson	36	72	..	..	..	..
Cleveland	46	65	76	..	..	..

Dr. W. Franklin Jones\* has given us the writing vocabularies of 1050 children classified by grades. Of the hundred words which make up this test, 74 appear in the writing vocabulary of the second grade, 13 in that of the third grade, 7 in that of the fourth, 1 in that of the sixth, and only 4 words (janitor, stopping, American, and lessson) are not included in the writing vocabulary of any grade.

A comparison of the scores for the schools of Leavenworth with the average shows that Leavenworth is below the average in most cases. The median score of 18 for the third grade in the Oak Street School is no doubt due to the fact that they took only half of the test.

These scores indicated that spelling is rather exceptionally well taught in the Sumner School and in certain grades in other schools. as, for example, the fourth grade in the Oak Street School, the third grade in the Third Avenue School. The upper grades make a relatively poorer showing. This probably is because sufficient drill is not given upon spelling in these grades. In fact, in the work observed by the writer, little attention was given to drill, and the emphasis was placed upon the meaning of the words and the ability to use them in sentences.

In view of the generous time provision for the teaching of spelling and the instructions of the superintendent, together with the nature of the spelling lists which are used, one would expect to find the children of Leavenworth exhibiting superior spelling ability. But the results of this test indicate that sufficient drill upon spelling is not provided.

\* W. Franklin Jones, Concrete Investigation of the Material of English Spelling, University of South Dakota.

## CHAPTER XXII.

## THE HIGH SCHOOL.

Walter S. Monroe, assisted by the Staff.

## THE NEW FUNCTION OF THE HIGH SCHOOL.

THERE are certain facts which show that the public high school is coming to fulfill a new function in our social order. The following statement is quoted from Bulletin No. 29 (1913), United States Bureau of Education: "From 1890-'91 to 1900-1901 the number of secondary schools, both private and public, rose from 4,885 schools, with 309,996 students, to 8,210 schools, with 649,951 students; by 1910-'11 these figures had increased to 12,213 schools, with 1,246,827 students. The schools belong to many types, ranging from those with only the strictly classical curriculum to those which are essentially vocational high schools organized with little or no reference to higher education." The fact that within the period from 1890 to 1910 the population of the United States increased only 41 per cent, and that within the same period the number of secondary schools increased 150 per cent and the number of students 260 per cent, is very significant. It indicates that the public high school, which is the dominant type of secondary school, is coming to fulfill a much larger function in our plan of education.

A study of the enrollment of the Leavenworth High School points to the same conclusion for the city of Leavenworth. (See page 42.) From 1881, when the enrollment reached 200, until 1905-'06 it did not pass the 300 mark; but within ten years the enrollment has doubled, and the indications are for a continued increase. Within this same period the population of Leavenworth has remained practically stationary. This means that the Leavenworth High School is assuming new relations to the community.

## THE REORGANIZATION OF SECONDARY EDUCATION.

There are two distinct lines along which the reorganization of secondary education is taking place. First, new subjects are being added to the program of studies. For example, domestic science and agriculture are being introduced in many schools. In the program of studies of the Colebrook Academy we find such subjects as political economy, history of commerce, advanced physiology and hygiene and the elements of nursing, horticulture, agronomy, and farm mechanics and carpentry. Second, there is a reconstruction of the subject matter within the present high-school subjects. Such subjects as algebra, geometry, physics, chemistry and botany had their beginnings in some practical needs, and have been elaborated by men who became interested in the subject matter for its own sake and who thus lost sight of its relation with practical life. This elaboration and the subsequent organization have resulted in structures which are marvelous when judged with respect to completeness and logical order, but which are composed of the subject matter far removed from the

realities of life and organized according to the working of the minds of mature philosophers and logicians rather than the minds of children.

The point of view which is being adopted in the reconstruction of our present high-school subjects is to ask regarding each topic, each problem, each process, each fact, the question, "*What is this used for in the world outside of the schoolroom?*" If subject matter will not assist in the preparation which the boys and girls need for the varied activities in which they will participate as adults, it is being eliminated from the subject. To what is left of the present high-school subjects after this elimination other subject matter is added which is useful in preparing boys and girls for the activities which they must undertake. After this is done, the whole is being organized in accord with the working of the child's mind rather than that of the adult.

This general point of view is being accepted by many of our foremost educators, and it seems quite certain that a number of our present high-school subjects will be reconstructed according to this plan. In the following sections of this Survey some detailed suggestions are given for the reconstruction of certain subjects in the Leavenworth High School. It should, perhaps, be stated here that these suggestions are not mere theories held by the members of the Survey Staff, but are ideas which have been given sufficient trial to warrant recommending them to the principal and teachers of the Leavenworth High School.

The Leavenworth High School is rapidly coming to occupy a different place in the community, and in order that it may efficiently fulfill this changed function, the principal and teachers of the High School face and will continue to face the problem of working out a reconstructed curriculum.

#### RECOMMENDATIONS.

The regular faculty meetings can be very effective if they are utilized for the serious study and consideration of vital educational problems. The working out of plans for correlation of the work of two or more departments returns rich profits in the effect upon the teachers. A small amount of this is now being done. It will be profitable to do more. In meeting the problems of reconstruction, more effective work can be done if those working within a field, such as history, science, English or mathematics, are organized into a committee. Such an organization and the work which is done will be effective in producing a broader concept of the work of the school.

It is but fair to mention here that, according to their own estimate, six of the High School teachers are now devoting from 50 to 60 hours per week to school work. If this estimate was carefully made, the matter should be investigated. Such totals are too large. It may be that some of this time is spent in ways which are only slightly valuable. If so, the teacher should be aided in employing his time to a better advantage. If not, the work assigned to these teachers should be lessened. In either case time should be provided for the types of activities just suggested.

At present no drawing or fine art is taught in the Leavenworth High School beyond a brief course for normal-training students. This is a serious lack, since art enters so largely into everyday affairs, and has industrial

as well as æsthetic value. These facts apply with even more force in the High School than in the grades. It is suggested that the work of the art department be extended to the High School, and that the courses in the High School be closely related to the courses in domestic art and manual arts. The work given should include the designing of furniture, the planning and decoration of houses, and costume designs, including millinery. A general course in applied design, which includes the designing and making of projects in a variety of materials and processes useful in home decoration, such as stenciling, block printing, and embroidery, would be a profitable course for all students as a means of developing appreciation of the relation of art to everyday affairs.

Music also is not taught at present in the High School, except a brief course for the normal-training students. We pointed out in the section on the educational needs of Leavenworth that it was vitally necessary that boys and girls acquire ideals of and capacity for wholesome leisure activities. Listening to music and producing it are recognized the world over as among the most wholesome of recreations. It is recommended that the course in music be extended into the High School. Chorus singing, music appreciation and orchestra are some courses which would be very profitable. The High School is already giving credit for music taken under properly qualified private teachers. This plan may be combined with such a music course as just suggested.

## CHAPTER XXIII.

### COMMERCIAL SUBJECTS.

Walter S. Monroe.

ONE of the five parallel courses in the High School is the commercial course. This course includes three years of English, two or two and a half years of mathematics, one year of science, two years of bookkeeping, two years of stenography and typewriting, and a year of commercial law and commercial geography. The remainder of the fifteen units required for graduation are elective. At the time of the Survey a total of 65 were enrolled in bookkeeping and 42 in stenography and typewriting. This means that practically one student out of every four is taking commercial work, and presumably the commercial course. Since the course is elective, this speaks well for the appreciation of the work by the students.

Among the changes contemplated for the future is a course on penmanship and letter-writing. As the commercial course was outlined to the writer, no provision appears for handwriting or business letter-writing. By all means the course should include such work. Other contemplated additions are commercial arithmetic, economics, and what the instructor has called, "The World's Work."

#### RECOMMENDATIONS.

The first two of these subjects are quite generally recognized as belonging in the commercial course. The last is seldom found, but if commercial work is to be connected properly with the activities of the business world these activities must be studied. If not studied incidentally in connection with bookkeeping, commercial arithmetic, commercial law, etc., they should be given a place as a separate subject.

The writer did not learn of any provision for household accounting. Such a course is very valuable for both boys and girls, and will find an application in the lives of many more than will commercial accounting or typewriting. For a beginning in this direction, the present course in bookkeeping might be supplemented by a few weeks devoted to household accounts at the end of the course, similar to the way in which the regular course in chemistry is supplemented by six weeks on household chemistry.

No provision is made for a young man or young woman who is working and wishes to study one or two commercial subjects, say bookkeeping or stenography and typewriting.

Neither is provision made for mature boys and girls who wish to prepare themselves for a commercial position within one or two years. In the past, young people of Leavenworth have had to go to private business colleges.

The Commissioner of Education, in his 1912 report, says:

"School administrators have learned that more pupils will be reached if short, practical courses are offered in the high school than if adherence to the rigid four-year course is insisted upon. Some children, because of home conditions, age and other considerations, know that they never will be able to complete the traditional high-school course, so drop out of



school altogether at the end of the eighth grade. In a number of cities two-year and other shorter courses have been provided for such pupils. Preparation for commercial and industrial pursuits and other vocational training are usually given in these abridged forms of the high-school curriculum. From reports received by the Bureau of Education, these shorter periods of secondary school work are proving popular without affecting attendance in four-year courses."

## CHAPTER XXIV.

## ENGLISH IN THE HIGH SCHOOL.

Minnie E. Porter.

## LITERATURE.

THE choice of classics for study, throughout three years of the high-school course, has been limited to the college-entrance requirements which have been accepted by the University of Kansas and embodied in the state course of study for high schools. These requirements are divided into five groups, representing these literary types: epic poetry and story, fiction, lyric and narrative poetry, drama, and general prose. Two classics must be chosen from each group. In addition, the following classics are required for careful study: Macbeth, Milton's Minor Poems, either Burke's Speech on Conciliation or both Washington's Farewell Address and Webster's First Bunker Hill Oration, either Macaulay's Life of Johnson or Carlyle's Essay on Burns. The English course at Leavenworth shows few variations from these requirements. Of the last-named requirements, the course does not include either the argumentative speech or the essay. The initiative of the teachers has not substituted anything in place of these. Twelfth Night has been substituted for the Merchant of Venice in the second year, and Treasure Island is used in the first term of the first year instead of the second term.

The lists of books for home reading submitted by the teachers show evidence of a desire on their part to meet real needs. The lists show that the teachers have made five selections from the collateral reading recommended by the state course of study, eleven selections from the college-entrance requirements, and twenty-eight selections of their own. In one list nine books are modern fiction. With the exception of three plays of Shakespeare selected for the third year, all the books for home reading are prose fiction. These recommendations show an effort to meet the need of shaping the voluntary reading of the pupils, but the field of effort so far is limited. While it is difficult to find entertaining reading for pupils of high-school age in the fields of biography and travel, the teachers should study such a list as given in the Report of the Committee on Home Reading of the National Council of English Teachers (1912).

In the arrangement of this home reading for the three years, we note and commend the effort to adjust the recommendations to the reading interest of high-school pupils of different ages. We are pleased to find in a first-year list, Tom Sawyer, The Deerslayer, and Poe's Prose Tales. Of forty-two eighth-grade boys who answered the question, "What books have you read this year?" nine preferred the Alger Books, ten the Motor Boys, and twenty-three the Rover Boys. These pupils will enter High School in September, 1914. The teacher who prepares a list of books for home reading for these boys must not only satisfy their desire for reading, but must shape and direct it. In the second year there is offered a

list of classic fiction. This is supplemented by a list of current fiction for easier reading:

<i>Supplementary List.</i>	<i>Substitute List.</i>
David Copperfield. <i>Dickens.</i>	Richard Carvel.
Old Curiosity Shop. <i>Dickens.</i>	The Crisis.
Dombey and Son. <i>Dickens.</i>	The Crossing.
Kenilworth. <i>Scott.</i>	The Price of the Prairie.
Ivanhoe. <i>Scott.</i>	The Winning of Barbara Worth.
Talisman. <i>Scott.</i>	The Shepherd of the Hills.
The Last Days of Pompeii. <i>Lytton.</i>	Bob Son of Battle.
Cranford. <i>Gaskell.</i>	Ramona.
Scottish Chiefs. <i>Porter.</i>	The Light that Failed.
Thaddeus of Warsa v. <i>Porter.</i>	
John Halifax. <i>Craik.</i>	
Ben Hur. <i>Wallace.</i>	
Jane Eyre. <i>Bronte.</i>	
The Mill on the Floss. <i>George Elliot.</i>	
Lorna Doone. <i>Blackmore.</i>	

In the list for the third year the reading interests of the pupils have been considered, but the selections include three of Shakespeare's plays and a list of representative English novels which supplement the history of English literature. On the whole, this report on home reading shows the initiative of the teacher is exercised to meet the real needs of the pupils as determined by their reading interests through the three-year course.

#### COMPOSITION.

The general recommendations from the college-entrance requirements, that practice in composition, oral as well as written, should extend throughout the secondary school period, are embodied in the course in Leavenworth. The state textbook, Stebbins' Progressive Course in English for Secondary Schools, has determined the choice and arrangement of the work in composition.

In the use of the textbook the teachers have followed the line of least resistance. They have accepted the spiral arrangement as inevitable, and have taught Stebbins Part I in the first year, Stebbins Part II in the second year. This is a result of lack of coöperation in planning the course to avoid the unsatisfactory spiral arrangement. The state course of study presents some valuable suggestions in the arrangement of a course of composition using Stebbins' textbook, but the teachers have not been influenced by these helpful suggestions. In fact, the lack of initiative is shown in the description of the course in composition for the first year, which follows exactly the order of the textbook.

The subjects for the work in composition have been taken from a wide range. It is in this matter of subjects for composition work that the teachers have shown their originality and initiative. Two methods have been used with the pupils in helping them find subjects for compositions. In one case the teacher had prepared on the blackboard a list of suggestive subjects, from which each pupil would choose one for oral composition. The subjects were of the nature of those which pupils of the first year would choose, but these boys and girls were deprived of the pleasure and the training in discovering subjects for

themselves. In another case current news articles were chosen from the point of view of interest for the class.

Another venture, which promises more in real training than either of the two mentioned, is the search for subjects dealing with local material. This search for material is a process of awakening a live interest in the world of affairs in the city of Leavenworth and in the high school community. The search for concrete material also provides a real desire for expression. The best among these compositions are printed in the *Leavenworth Times*. The city of Leavenworth is listed as a textbook. That the life of the community will furnish abundance of material for composition there is no doubt. The helpful coöperation of the newspapers of the town in giving publication to the writing of high-school pupils is strongly recommended. In the absence of a school paper or magazine, or a school print shop, the newspapers furnish the only assurance of publication.

The initiative of the teachers is not limited, however, to the choice of subjects for composition. The course shows the result of the exercise of this initiative in planning a fourth year of composition as an elective. The University of Kansas now provides for accrediting a fourth year of English, provided that the work is approved by the University, which has made no attempt to mark out the content or the scope of the course. Any high school in Kansas is free to plan a year of elective work in English, provided that it is of high grade and serious in purpose. With this opportunity, Leavenworth has reached out this year in a course in journalism and short-story writing.

#### ALTERNATION OF COMPOSITION AND LITERATURE.

In the report of teachers of first-year English we find this statement: "Monday, Tuesday and Thursday are devoted each week to the *regular course* as it progresses. Wednesday is known as theme day. Friday is oral-composition day." The teachers of first-year English observe this program throughout the year.

An examination of the actual results of such a program shows the disadvantages of the arrangement. The writer observed a class on Tuesday enjoying the first chapters of *Treasure Island*. The story made its appeal at once. With the interest thus aroused, the boys and girls were ready to read on with the story, and would naturally look forward to the enjoyment of the story on the following day. But this could not be, for Wednesday was theme day. The next assignment was made as follows: "Read the next three chapters twice for Thursday." Thursday the class met to enjoy more of the story, although we are quite sure each boy did not read the next three chapters twice. He must have read as far ahead as time would permit. But this pleasure in a most thrilling part of the story must be broken again, for Friday was oral composition day, and they would not talk about *Treasure Island*. Further consideration must be postponed until Tuesday. When a boy's interest is once aroused in *Treasure Island* he sits up at night to finish it; he does not wait for any program outlined by a university for accredited schools.

But if there is an element of loss in the study of a classic, we must consider the effect of this arrangement upon training in composition. In the reports of teachers for the second-year English we find that Wednesday is theme day *each alternate week*, and that every Friday is oral composition day. The study of the classics named is the principal work of the course. One day each alternate week would allow eighteen class periods for written composition in a course which is outlined to include the *advanced* work in narration, description, exposition and argumentation. In oral composition thirty-six periods are allowed of thirty-five minutes each. If in a class of twenty-five pupils the teacher used a maximum of ten minutes for instruction and suggestive criticism, and if the pupil spoke in the class hour, one pupil could be allowed but one minute of the remaining twenty-five. And even with this unsatisfactory arrangement each pupil could speak but once a week. Training in composition, in writing or in speech is training in an art in which skill is developed by frequent practice. Under the conditions just set forth a teacher can not develop skill in untrained and immature pupils.

The result of this arbitrary division of time has been to throw the emphasis upon the teaching of the literature as the *regular* or *major* part of the course, and to make the teaching of composition, both oral and written, less effective. Under these circumstances, the lessons in composition appear to the pupil to be an unnecessary interruption to the regular course in the reading of English classics.

While the subjects of literature and composition are carried on side by side, as has been indicated, there is little relation between the two. In the first-year English there are two independent courses offered. The state course of study suggests that the relation be "not so much in subject matter as in character of appeal." This relation is not marked in Leavenworth except in the course in short-story writing, which is a course in composition. The stories used serve as models for the study of the technique of the short story. In the third year, which has as its basis the survey of the history of English literature, the literature and composition are related in subject matter. The study of *Macbeth* was followed by a debate in the Shakespeare and the Bacon theory. This was given as an illustration by the teacher as a means of bringing argumentation into the third year. Another report reads as follows: "Each pupil chooses a different subject. Reading is done in the library upon works referred to in the textbook on the history of English literature. The reports are read in class so that each pupil may derive benefit from the work of the others." The writer examined the compositions of two classes in the assignment of the subject, "The application of the poem, *The Crisis*, to the French Revolution." This subject grew out of the reading of *The Tale of Two Cities* in the second year. As a problem in literary study it has some value, but as for training in composition, the real motive for composition—the desire to express one's self for a real audience—was absent. Here it will be seen that the emphasis is upon the study of literature. Composition is used as an aid to this study, as it may be an aid to the study of history

and geography. In the main, then, we conclude that while literature and composition are taught side by side throughout three years of the high-school course, they are treated as two unrelated courses.

#### RECOMMENDATIONS.

The attempts to adapt the teaching of English to local needs place the teachers of English in Leavenworth in the line of definite progress. We recommend that steps be taken toward making definite plans in the coming year for the study of the problem of the reorganization of the English work in the High School. The initiative shown thus far in the adaptation of the teaching of English to the needs of Leavenworth has been the result of *each teacher working independently*.

An organization of the department for next year should be made by the appointment of one of the four teachers of English as chairman of a committee on reorganization of the course of study in English. The teachers of English and the principal should constitute this committee for serious study during the coming year. The principal can not be expected to take the place of a specialist in English or of the head of the department. He must bring to the work of the committee the view of the school as a whole and of the function of English teaching in relation to the other work of the school.

This committee of high-school teachers of English should become a part of a larger committee, composed of the superintendent, the principals of the buildings containing seventh and eighth grades, and the teachers of English in these grades. The teachers of first-year Latin and German should identify themselves with the work of this committee so far as it concerns itself with the question of the teaching of grammar. The problem of the seventh, eighth and ninth grades is recognized by the National Committee as one problem—the problem of the intermediate school. The unfortunate gap, in the method and subject matter, between the eighth grade and the High School should be lessened. Then, too, the teachers of departmental work in English need the point of view of the teacher in the High School in dealing with the older pupils in the grade schools. But more than that, the teachers of English in the High School need the help of the experience and sympathetic understanding of the eighth-grade teacher and the principal.

## CHAPTER XXV.

## HOUSEHOLD ARTS.

Ella V. Dobbs.

HOUSEHOLD ARTS in the Leavenworth High School is an elective subject in the general and industrial courses. Two periods or eighty minutes daily are devoted to the subject, and two years' work is given at present. Plans are in contemplation for its extension to four full years as soon as circumstances will warrant. When the courses were first organized the time was divided between domestic science and domestic art, lessons being given in each subject on alternate days. Later the present plan of devoting alternate quarters to each phase of the work was adopted and found to be much more satisfactory. The further extension of the term of consecutive study in one field to one-half year is now under consideration. This plan has much to commend it, giving greater opportunity for concentrated effort.

## SEWING.

The work in domestic art includes the cutting and making of plain garments, such as the more complicated undergarments and a wash dress. In the second year a wool skirt, a tailored shirt waist and a lingerie dress are made. The course includes the drafting of patterns to measure as well as the use of prepared paper patterns. The study deals with the theory as well as the practice of the necessary processes, with the quality of cloth and the control of its tendency to fade and shrink, with the suitability of material to specific garments, and with suitable styles of clothing for specific occasions. In many instances the members of the class are wearing the garments they have made, and in several instances a very marked improvement in the neatness of dress and in the care of the person is noted as a direct outgrowth of the study.

## COOKING.

The course in cooking includes the care and sanitation of the kitchen, the cooking and serving of simple meals, a study of food values and their relation to health, and a brief study of home planning and furnishing. In addition to the ordinary lesson, in which a specific dish is prepared and for which materials are specially provided, emergency lessons are given on occasion offers, in which the class is expected to make use of the leftovers in a scant larder and evolve something appetizing, very much as the housewife must often do for the unexpected guest.

Each student must also prepare a test menu of properly balanced food values, cook and serve the meal. In these meals a definite cost limit is set. In actual practice the cost ranges from ten to twenty-five cents per person served, the latter being the cost of a luncheon served to the school board.

In selecting subject matter for class work, emphasis is placed upon methods of preparing appetizing dishes from the less expensive materials, such as the cheaper cuts of meat and the less popular vegetables, in order

to impress upon the girls the idea that good cooking is not necessarily expensive cooking, and that economy is an essential in good housekeeping. The course also emphasizes the more substantial elements in cookery rather than what are sometimes termed "frills." For example, only one lesson in the year is given to salads.

In the conduct of the classes, each girl is provided with a set of the essential cooking utensils, which must be kept in orderly fashion in the cabinet assigned to her. Each lesson, with a few exceptions, is a complete unit. For example, in a lesson on the cooking of cereals, the chemical and biological principles involved and the relative merits of different methods of cooking are discussed. The pupils then individually test these methods by cooking the cereals in accordance with the principles discussed and noting the effect of different processes.

Such a lesson also calls for prompt and systematic work on the part of each student, since the work must be completed, the dishes washed and returned to their places, and the laboratory left in perfect order for the next class, which will assemble within five minutes after the first is dismissed.

In the study of house planning, attention is called to the points to be noted in the selection of a rented house and the choice of the site for a house which is to be built, such as drainage of the lot, relation of the house to the direction of sunlight and prevailing winds, provision for proper sanitation within the house, provision for convenience in working and guarding against waste of time and energy in useless steps and movements. It also touches upon the selection of furniture and the choice of wall decorations and draperies. The time to be devoted to house planning is inadequate for more than a few suggestions concerning the chief problems involved.

The organization of the courses in home economics in the High School follows approved lines and gives evidence of efficient execution. The suggestions to be offered in this field are chiefly in the line of extension, and many of these suggestions are already in contemplation by the supervisor and superintendent.

#### RECOMMENDATIONS.

The next step should be a course in millinery. This could be introduced without extra equipment of any importance, and would add materially to the value of the department. It is suggested further that definite study in fine art be made a part of the required work of the course in domestic art. Such a study should deal with problems of costume design, house furnishing, and decoration. In costume design, the fundamental principles may be tested and applied in color sketches and in the dressing of dolls and small models, as well as in specific application to such problems as are presented in the actual garments and hats to be made by the individual students. The study of house planning may include the making, comparing and criticizing of various house plans, a study of the cost and durability of various materials, and a study of desirable color schemes and suitable furniture. Such study may be illustrated by water-color sketches and by miniature models of rooms done in thin wood and cardboard, which bring out many points not touched by the flat sketch.



It is the common practice in the teaching of domestic science to use individual recipes calling for small quantities of material, and allow each pupil to perform all the steps in each process. While this plan is generally satisfactory, it gives the student little or no practice in handling the larger quantities needed in the average family. To meet this need, two general plans are being tried with considerable success in various places. The first is that of giving school credit for definite home work, such as preparing for the family a recipe which has been tried at school. This plan may be arranged in any school without material increase in expense. The second plan is that of providing a house or a suite of rooms which are to be lived in and cared for by the students, each member of the class being responsible for certain work for a given length of time. This plan has much to recommend it, but involves considerable expense and careful supervision. The problem of the school lunch offers another means of bringing real problems into the classroom by the preparation of a simple lunch for those who remain during the noon hour. This plan is open to the criticism that it is apt to narrow the work of the class by requiring too much time for the preparation of a few dishes, especially if large numbers are to be served. The immediate needs in the Leavenworth High School seem best met by the first plan outlined.

It is further suggested that a close correlation be maintained between science and cooking courses. The present educational tendencies suggest that science courses, particularly chemistry and biology, be planned to parallel the work of the cooking classes, in order that as questions arise in the manipulation of food materials it may be possible to find answers to them through experimentation in the science laboratory. Such parallel courses should be taken simultaneously. This plan would go far to forestall the distaste many girls profess for science when taught by formal methods and logical organization. By the present arrangement of courses in Leavenworth, many girls do not receive any instruction in chemistry other than that given in the cooking laboratory.

One of the common criticisms of a school course in household arts, especially in the early days of its history, was that too much time is devoted to the preparing of dainty dishes and too little to the common tasks of fire-building, dish-washing, and the plain cooking of meats and vegetables. Such critics are reminded that skill in the preparation of food, as in any other mechanical process, is a matter of long-continued repetition; that ability to carry on several processes at once, such as is required in preparing even a simple meal, and to bring those processes to a successful issue at an exact moment, is also the result of long experience. The school can not give this experience; at best, it can only lay a foundation for it and direct the course it shall take. These critics would doubtless be even louder in their criticisms if the school were to confine its work to the repetition of a few fundamental processes. It should also be remembered that the preparation of a dainty article of food or the making of an attractive garment may often awaken an interest leading to greater effort, whereas the more prosaic task may have the opposite effect.

## CHAPTER XXVI. MANUAL TRAINING.

Ella V. Dobbs.

### THE FUNCTION OF MANUAL TRAINING.

COMMON PRACTICE in public schools has developed two general types of handwork, growing out of two conceptions of the value of the manual arts. In the one, handwork is regarded as a cultural subject, having equal if not greater value than the accepted book subjects as a means of mental development. The other regards handwork as a vocational subject, having subject matter of intrinsic value. The former seeks a broad acquaintance with tools and materials for the sake of developing an appreciation of material things. The latter emphasizes technical skill with a view to later training in a trade.

Until recently, public-school courses in handwork have strongly emphasized the cultural values, with the result that often after spending considerable time upon handwork the high-school graduate has a smattering of many processes but no marketable skill. Present interest is directed strongly toward the value and importance of the vocational aim in handwork.

The public is becoming more and more alive to the fact that the public school must be a school for all the people, and that the high school should not only serve those who expect to attend college and prepare for professional work, but should serve equally well those who choose mechanical pursuits. The old apprentice system which guaranteed full training in a given trade has disappeared with the small shop. The modern factory system has no place for the apprentice. Many factories are recognizing this need and establishing training schools in connection with their shops. These schools, in many instances, are doing excellent work. The public, however, can not afford to allow the training of its workmen to become a matter of private enterprise. The factory is interested chiefly in the product, and only secondarily in the boy. The temptation to narrow the training given, in the interests of the factory, would in many instances be too strong to resist. The public must see to it that a broad, general education parallels the technical training. This throws upon the school the obligation of providing opportunity for a reasonable amount of specialization in handwork, at least equal to the opportunity offered for preparation for professional work. This special study would of necessity be in addition to the handwork offered to all students for the sake of its cultural value. The problems arising from these obligations are all so new that there is as yet no well-defined consensus of opinion as to the extent to which any single course may be at once cultural and vocational. Nor has any one plan for vocational training as yet met with universal approval, though several plans are in satisfactory operation.

The chief point to be heeded is that the two values exist, and each community must meet both needs as fully as possible. The Russell Sage

Foundation, through Dr. L. P. Ayres, is making some interesting studies concerning the extent to which children enter local industries, and also what industries are to be found in all communities, with the proportionate number of jobs they furnish. These studies will help solve the problem of selecting the fields in which it will be profitable to offer specialized study in the high school.

#### HANDWORK IN THE LEAVENWORTH HIGH SCHOOL.

The course in manual training in the Leavenworth High School consists in advanced cabinetmaking in the first year and pattern making the second year, with a comprehensive course in mechanical drawing open to all students, whether they have taken bench work or not. The course in pattern making includes some study of foundry practice.

The cabinetmaking course includes the making of taborets, tables, chairs, bookcases, and other pieces of home furniture. The course is organized on free lines, each student selecting the project upon which he wishes to work and the design for it, subject to the approval of the supervisor. A sketch and working drawings are first made. From these the student works out a mill bill (*i. e.*, a list of the pieces of material needed and the dimensions of each), and a lumber bill (*i. e.*, the amount and kind of rough lumber needed). Sometimes he takes his bill to the lumber mill and buys his own lumber; in most cases he purchases his material through the school. He then proceeds to build and finish his piece of work. The number of pieces to be completed by one student in the year depends entirely upon the amount of work involved in each, and varies according to the projects chosen. Each pupil pays for his own material and owns the finished product. In a few cases in which a boy can not afford to buy material, he is given work to do for the school, or is helped to earn his material. The projects all being of their own choosing, each worker usually has a definite purpose in his work. He therefore wants what he makes, and is willing to make some sacrifice, if necessary, to obtain it. This definite purpose also furnishes a strong motive for good workmanship, and many excellent pieces of work are turned out.

The course in pattern making includes the making of six common 'founders' patterns. These patterns require great accuracy and call into play the pupil's knowledge of both turning and bench work. The making of the patterns is accompanied by a study of foundry problems. The present equipment does not permit actual work beyond the making of the patterns. The equipment needed for the founding of small pieces of brass and white metal could be installed at a comparatively small cost and would greatly increase the efficiency of the course in pattern making. It could be further supplemented by visits to local foundries, such as the stove works.

#### MECHANICAL DRAWING.

The course in mechanical drawing includes geometric problems, working drawings, machine and architectural drawing. The geometric problems make a concrete application of geometric principles, and form an excellent parallel to the study of geometry. The working drawings deal with various projects in cabinetmaking and machine

building. The architectural drawing includes house plans and elevations. The climax of this year's work is a plan for remodeling the High School building in a way to increase greatly its usable space. The pupils taking this course have not all had bench work. The practical knowledge gained in handling materials and the use of working drawings in bench work is of great advantage to the student of mechanical drawing, and is evident in a comparison of the work of those who have and those who have not had bench work. Occasional excursions are made to furniture factories, which give the students an insight into actual factory problems and conditions and a better appreciation of the function of the draughtsman's work. A readjustment of required and elective work in the High School which would allow the student of mechanical drawing more time at the bench would undoubtedly be of advantage in the study of that subject.

In addition to the work above outlined, advantage is taken of opportunities for gaining practical experience in repairing and remodeling the classroom. For example, the present class is fitting the tool room with shelves and cabinets for a systematic care of the tools and small stock, such as nails, screws, etc. Another group is at work enclosing the open stairway leading to the hall on the first floor. The enclosing of this stairway will shut out much of the noise of the workshop and add greatly to the comfort of the classes on the first floor.

#### RECOMMENDATIONS.

The writer finds little to criticize and much to commend in the organization and conduct of the manual-training department of the High School. The work given is practical and the standards of workmanship are high. The suggestions to be offered are chiefly along the line of extension and progress.

A closer correlation between handwork and book subjects, such as geometry, physics, chemistry and industrial history, would add to the interest in each field. The advantage of practical experience in real problems, such as the two cited, is not apt to be overestimated. There are usually some members of every class who are much happier and more successful in work of this type, and the work need not be confined to the workshop, but may be extended to include any problems which are within the ability of the students.

The fact that Leavenworth has a large variety of manufacturing interests with which some of her high-school pupils will probably be connected in the future suggests a close correlation between them and the work of the High School.

## CHAPTER XXVII.

## MATHEMATICS IN THE HIGH SCHOOL.

Walter S. Monroe.

## THE COURSE OF STUDY IN ALGEBRA.

THE mathematics in the Leavenworth High School consists of one and one-half years devoted to the study of algebra, one year to plane geometry, one-half year to solid geometry, and a year to trigonometry. It will be illuminating to take an inventory of the course in algebra to determine what occupies one-fourth of the time which the boys and girls of Leavenworth spend in high school for a year and a half. What is said with reference to Leavenworth is equally true for many if not most cities in Kansas, because of text which is prescribed by law. In the first place, they solve the grand total of sixty-nine problems, which might possibly be practical. They have learned how to operate with negative exponents, although they will not have a real need for them before they study calculus in college. They have solved intricate fractional and radical equations, which are far more complicated than they will ever meet in life outside of the schoolroom unless they perchance choose engineering as a profession. They have spent several weeks studying factoring, although only the very simplest cases of factoring are useful in solving practical problems, and these very seldom. An elaborate study has been made of fractions with binomial and larger polynomial denominators, although such fractions seldom if ever occur in practical problems. Division has been studied, although the only use which is made of it (beyond the most simple cases) is to find the highest common divisor by the Euclidean process, which is itself an obsolete topic.

A careful examination of the course of study fails to reveal anywhere even a passing consideration of the situations in practical life in which the algebraic symbols and operations are used. Thus the subject matter of the course is *abstracted*—taken away from practical situations in life in which it may be used.

A survey of this abstracted subject matter reveals the further fact that only a small per cent of it will ever be used in practical life by any one except those few who pursue certain technical professions.

The order in which the several topics are taken up is also significant. The several operations of algebra—the four fundamental operations, factoring, the work of fractions, etc.—have scarcely any use except as they occur in solving equations. Thus it seems that if this abstracted subject matter must be taught, it would be so arranged that the pupil would find a use for the operation at the time or before he studied it. However, an examination of the text shows that the order is such that the pupil must study a process and be drilled upon it before he is given any suggestion of its use or allowed to use it in solving even an abstract equation.

It was found that the teachers were altering the order of the text in a number of instances. This is commendable, and greater initiative will be

profitable if the several processes of algebra are brought closer to their application. One case of initiative on the part of a teacher was found which produced just the opposite result, and while the exercise of initiative is to be commended, the result which was produced is to be criticized.

The examination of the text also reveals the fact that the boys and girls who began algebra last September (1913) had met with only twenty-three equations and a few problems by the middle of March (1914). This means two things: First, the boys and girls of Leavenworth, after studying algebra for approximately seven months, could not solve equations which in a great many high schools the pupils can solve after two to four months. Second, the boys and girls of Leavenworth have been kept working for seven months with algebraic processes which they have had no opportunity to apply even in an abstract way.

#### THE TEACHING OF GEOMETRY.

In geometry the teacher is exercising initiative to the extent of preparing mimeographed lists of the theorems and exercises which are given to the pupils by way of assignment. These exercises and theorems are selected by the teacher from a number of texts and are organized "according to the recommendations of the Committee of Fifteen." The teacher reports that "the main object is to make the pupil work out his own proof instead of memorizing proofs in the text." Such great exercise of initiative is to be especially commended, and the fact that the course is based upon the Report of the Committee of Fifteen shows that the teacher has kept in touch with recent movements. But it should be pointed out that the Committee of Fifteen were primarily concerned with determining a list of theorems essential to the field of geometry, and only secondarily with applications which are made of geometry in actual life.

Thus the subject matter of geometry as it is taught in Leavenworth is essentially abstract. As such it is well taught, and the teacher is to be commended for her initiative and the energy which she is putting into the course. But if some of this initiative and energy were directed towards relating the theorems of geometry to practical life, a much superior course might be worked out.

The course in trigonometry is elective and follows closely Wentworth's text. A full year is given to the subject. That this is too much time is indicated by the fact that the course is valued at one-half unit, or half of a year's work.

#### RECOMMENDATIONS CONCERNING THE COURSE OF STUDY.

To begin with, the teachers of mathematics in the Leavenworth High School should collect problems in which high-school boys and girls may be caused to become interested. Some such problems can be obtained from other algebra texts. Others can be found in the fields of physics, manual training, mechanics, surveying and calculus. A study of the adult activities of Leavenworth will yield a number of suitable problems.

The list of problems thus collected should be graded, and the problems which are too difficult or which come from too highly specialized situations should be eliminated. At first these problems may be used simply as applications for the processes of algebra and the theorems of geometry which are now taught.

This list of problems can be mimeographed and placed in the hands of the pupils. Their present text can serve as a reference for obtaining the necessary algebraic and geometric tools for solving these problems and as a source of drill exercises. To provide time for these problems of application, eliminations can be made from the subject matter of the present courses in algebra and geometry. For example, long division, factoring beyond simple cases, negative exponents, much of radicals, complicated fractional equations, literal equations, etc., can well be omitted. But this should be only the beginning. It should be the aim to work toward a course in mathematics whose core will be these problems together with the practical situations from which they are taken. Along with the problems the pupils should be given the algebraic symbols and operations, the geometric and trigonometric facts, and even the operations from analytics and the calculus which they need to solve the problems. Sufficient exercises should be provided for the drill which is necessary in order to secure facility in performing mathematical operations.

Along with the problems, the practical situations from which the problems come must be studied. For example, if a problem is taken from physics, the situation in physics which produced the problem must be understood by the pupils before they can be expected to solve the problem; or if a problem is given from one of the local industries, the practical situation which produced the problem must be studied. Practical situations which produce mathematical problems are legitimate subject matter for the class in mathematics which is solving the problems. In fact, the practical situation must be clearly understood by the pupils before they can possibly work the problems intelligently.

Such a course as we have indicated should not cover more than two years' work. In one school where such a course has been given it is followed by a year's work on algebra and geometry of the usual type. This year should be elective. The practical part of trigonometry will be absorbed in the reconstructed course we have outlined, and when that is accomplished a separate course in trigonometry should not be given in the high school.

ALGEBRAICAL ABILITIES.

To test the results in the case of algebra, a series of six tests\* was planned for those students who began the study of algebra last September. The tests called for the following algebraic operations:

TEST A.  $4(3x - 4) =$

TEST B.  $\frac{-7x - 2}{6} + \frac{x + 1}{8} =$ . (Simply reduce to a common denominator.)

TEST C.  $35x = -41$ . (Result to be left in fractional form.)

TEST D.  $-4x + 5 = 3x - 5$ . (Only to transpose terms.)

TEST E.  $-7x - 3x - 6 + 4$ . (Terms to be collected.)

TEST F.  $\frac{-3x - 2}{4} = \frac{x + 2}{6}$ . (To be solved completely.)

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\* Owing to a misunderstanding, test B was not given in the Leavenworth High School.

This series of tests was selected because of the fundamental importance of the equation. In solving problems the conditions of the problem are expressed in equation form and then the equation is solved. And besides, the work of the first year is centered about the equation. The pupils use the algebraic operations in a practical way only as they occur in equations.

In giving a test, a copy was given to each pupil and printed directions were followed. The pupils were asked to write their names and the date and to read the directions at the top of the page. When they had signified that they understood what they were to do, the signal to begin work was given.

The time allowed was: Test A, 2 minutes; test B, 3 minutes; test C, 1 minute; test D, 2 minutes; test E, 3 minutes; test F, 12 minutes.

To provide data for comparison the same tests were given to all of the corresponding classes in the Oklahoma City High School. The same instructions were followed, and only three persons were employed in scoring all of the tests. With the exception of test F, in the Leavenworth High School, the tests were given in March. Test F was given in the Leavenworth High School in May. The average number of examples attempted, number right, and the per cent right for each school, are given in the following tables:

TABLE XXXIII.

*Leavenworth High School—79 pupils.*

<i>Test</i> .....	A.	B.	C.	D.	E.	F.
Attempted. . . . .	18.0	....	8.8	6.9	8.8	6.2
Right. . . . .	15.3	....	5.0	3.8	5.6	1.4
Per cent right.....	85	....	57	56	63	23

*Oklahoma City High School—197 pupils.*

<i>Test</i> .....	A.	B.	C.	D.	E.	F.
Attempted. . . . .	17.0	4.8	7.9	9.3	10.2	5.7
Right. . . . .	14.6	1.5	6.8	7.6	6.8	1.9
Per cent right.....	86	30	86	82	66	32

An analysis of the mistakes made by the pupils in Leavenworth in test F gives the following data:

Total number of mistakes in sign.....	400
Mistakes in sign in transposition.....	77
Mistakes of using sign wrong in addition.....	28
Mistakes in sign in division.....	5
Mistakes in copying.....	59
Mistakes in arithmetic, any sort.....	87
Using denominator wrongly in two-term equation.....	158
Using denominator wrongly in three-term equation.....	10
Using common denominator wrongly on monomial term.....	35
One term of binomial not multiplied.....	14
Term omitted.....	10
$x$ omitted.....	8
Incomplete as $-x = 5$ .....	2

Of the 400 mistakes in sign, 110 occur in addition (and subtraction), division, and transposition. The remaining 290 occur in multiplication and in the removal of signs of aggregation. All of these operations are



given in the first chapters of the text and were probably studied in the first month of school and used frequently in the following months. When this test was given in the seventh month of school, 400 mistakes in sign were made in solving 437 examples.

The mistakes due to omitting a term or  $x$ , failing to multiply one term of a binomial, and to copying, total ninety-one. These are purely matters of carelessness. The eighty-seven mistakes in arithmetic should probably receive the same classification. The mistakes in using the denominator wrongly total 203.

Upon the basis of the results of these tests and of the observations of the writer which corroborate these results, three recommendations are made with reference to the teaching of algebraic processes. First, the instructors should evaluate the several algebraic processes which are given in the text and select those which are fundamental to the solution of equations. These, together with the equation, should be given first rank in importance. Second, sufficient drill should be given to insure a higher degree of accuracy. To make this drill most effective, there must be concentration and a feeling that it is good for something. This leads to the third recommendation: The algebraic processes involved in solving equations should be taught so that the pupils will realize their use, and the equation itself should be taught so that the pupils will appreciate its value as a tool in solving problems.

CHAPTER XXVIII.  
NORMAL-TRAINING COURSE.

W. W. Charters.

THE FUNCTION OF THE COURSE.

THIS normal department belongs to the type of normal department found in the high schools of Kansas as provided by the state laws and supported in part from state funds. In it are taught the subjects prescribed by law.

It has a further duty to perform in Leavenworth, however, since vacancies in the first four grades of the schools are filled from the graduates of this department after they have taught one year or have substituted, as occasion requires, for one year.

This means that Leavenworth, a city of over 20,000 people, paying a median salary of more than \$650 to its teachers, is supplied almost entirely in the first four grades and in part in the upper grades by teachers who have only a high-school education (partly professional) and have had one year's experience in teaching when selected.

Moreover, it is not required that prospective teachers take manual arts, sewing, nature study or physical training during their high-school course, although they are required to teach these subjects in the grades. Drawing is studied two periods a week for a year—an inadequate amount of time. Music is taught for one period a week, which may be inadequate.

RECOMMENDATIONS.

I recommend the following changes:

(1) That preference should not be given in a city of 20,000 people to graduates of its own training class. The training so secured can not be the equal of that received by a normal-school graduate in either quantity or quality. The city can not maintain the equal of a normal-school faculty. Moreover, there is a great tendency to inbreeding. There are undoubtedly cases in which the graduates of the training department in a small city are superior to applicants trained elsewhere, but that is the exception and not a rule. Consequently, when teachers are to be selected, the greatest care should be taken to select the best teachers available, whether trained in the home training classes or not.

(2) The normal department in the High School should have, as at present, one course conforming to the state requirements, and should aim to train teachers under state regulations primarily for rural and small graded schools. But if it attempts to train teachers for the Leavenworth schools there should be a three-year course, including the senior year in the High School and two postgraduate years. During their high-school course those members of this department who expect to teach in the Leavenworth schools should be required to take full courses in cooking, sewing, nature study, manual arts, music, drawing and physical education with other high-school students, but preferably in classes containing only teachers in training, so that attention may be given both to subject

matter and to methods of teaching and organization. If these prospective candidates are taught with other high-school students, then in a course (or courses) in special methods the problems of teaching in these subjects should be discussed.

(3) The teacher of the normal department should be paid a salary at least the equal of the high-school principal in order that as efficient a director of teaching as possible may be obtained. Such a teacher could be utilized to take direction of the technique of classroom instruction in the grades of the whole system. He could help in spreading the latest information, in directing experiments, and in stimulating the teachers to investigate more efficient methods of teaching.

(4) The course of study for the normal department should be worked out with extreme care, so that all high-school courses already offered may be utilized to get the full use of experts in each line. Department teachers in the upper grades may offer courses in special methods of teaching the special subjects of each, and the department teachers should be selected with this possibility in mind.

(5) The board should immediately lay down the requirement that no teacher will be employed who has had no experience as a teacher, and none who has not had at least one year of professional study beyond the High School. This should be increased to two years if the salaries paid will command such training; and if not at present, the demand should be made as soon as possible.

## CHAPTER XXIX.

## PHYSICAL TRAINING FOR BOYS IN THE HIGH SCHOOL.

Walter R. Smith.

THE HIGH SCHOOL is built upon a block with two churches, a parsonage, and the public library. The building covers practically the whole of the ground owned, so that the ordinary needs of a growing High School will be met with difficulty and great expense even without considering playgrounds or a gymnasium.

With the possibilities of expanding the grounds about the building removed, and no other plans devised, physical training has been neglected. Athletic teams worthy of the city have not been developed. A cadet corps is maintained without drill grounds at hand. Gymnastics have received no attention. School loyalty and *esprit de corps* should not be dependent upon athletics; but many high schools have found that regular teams aid greatly in maintaining local spirit and holding boys and young men in school. They aid greatly in discipline of the higher sort. Failing to develop the athletic spirit in this age frequently means a failure in the development of the organizing ability and united effort needed in school enterprises. A large organization, almost wholly of high-school boys, was maintained through the city Y. M. C. A. This organization was a worthy one, doing efficient work, and the high-school principal was one of the three sponsors for it. But how much better for the school would it have been to have this organization within the school, working for the school, centering its loyalty and spirit about the school! Had there been a good spirit, grounded upon athletic prowess, with the good name of the school and her wider interests at heart, this might well have been a purely high-school organization.

## NEED OF AN ATHLETIC FIELD.

The situation at present is a very difficult one. This was felt by the Board of Education, superintendent, principal, and the boys themselves. A new athletic spirit is awakening, however. The writer witnessed the celebration of the winning of a district basket-ball championship. Loyalty was not wanting. But winning seemed to be too new for Leavenworth, the largest city playing in the district. This might well be expected without a gymnasium, a regular field or a permanent place for practice. These handicaps produced discouragement past, present, and for the future.

No land is near the High School to be purchased for an athletic field without considerable expense. But lack of better planning in the past should not prevent action in the future. Every block in the neighborhood is built upon. Some land, however, can be purchased at much less expense than many other cities have paid under similar conditions. Within a short walk of the High School is at least one block which, considering its possibilities, Leavenworth could well afford to buy. This block is not only near the High School, but is only a short distance from

two of the larger grade schools—Oak Street and Third Avenue. A gymnasium could be built in one corner of it and a stadium easily planned. It would not only provide for the urgent needs of the High School, but could be freely used by the two grade schools now almost wholly without playgrounds, and might serve as a clearing-house for all the grade-school contests in the city. It would also provide a summer playground in the heart of the best residence district in the city, where no sign of one exists at present. All of these purposes combined should make it worth while, and it would be less expensive than the neglect to provide any of these things in the past would warrant the city in expecting.

PLAN SUGGESTED.

Probably half of this block could be purchased and a good practice field graded up for five thousand dollars. This might be done to start matters, and larger extensions be planned for the future. The writer, however, believes that Leavenworth is about ready for a larger plan. A canvass of the situation reveals the fact that the present tax levy will provide only for the running expenses of the schools and a small surplus that will be needed for the next few years in repairing, equipping and modernizing the grade-school buildings and adding to their playgrounds. If the urgent needs of the High School for physical training are to be met a small bond levy is indispensable.

Nor will that issue be a hardship upon the people. Leavenworth has been heavily in debt, and that debt has been reduced only by taxing her citizens heroically. It has not only been largely reduced, however, but it never was a school debt to any large extent. The bonded debt of the school board is now less than sixty thousand dollars. This is less than the school debt of any other first-class city in Kansas. The comparative debt of the schools of the first-class cities of Kansas in 1912 is shown in Table XXXIV:\*

TABLE XXXIV.

	Total.	Per capita.
Wichita .....	\$531,500.00	\$10.13
Topeka .....	529,161.00	12.11
Hutchinson .....	261,500.00	15.98
Atchison .....	142,000.00	8.65
Fort Scott .....	135,000.00	12.90
Coffeyville .....	115,000.00	9.06
Pittsburg .....	90,000.00	6.09
Parsons .....	86,000.00	6.90
<i>Leavenworth</i> .....	65,307.78	3.37

The school tax and school debt have been comparatively light, and are so to-day. Progressive and effective schools cost money, but they return it many-fold. And the Leavenworth of the future will suffer in the competitive struggle for existence and progress unless a more liberal policy is adopted.

If Leavenworth can rise to the emergency and meet the demands of progressive schools, the first line of expansion is clear. All seem to be agreed. The citizens, Board of Education, superintendent and teach-

\* The writer has been unable to obtain the figures for Kansas City, Kan., for 1912, but reports for other years indicate a large actual and average per capita debt.

ers, together with every member of the Survey Staff, are of the opinion that the thing most needed is extra space for playgrounds. A comprehensive plan should be devised to provide adequate play space for each school in the system. The budget necessary to carry out such a plan should be carefully made out, and a campaign of education of the public up to the necessary liberality to carry out these plans should be inaugurated at the earliest possible date. Leavenworth faces a critical period in her history, and the public school is a good point of departure for a civic renaissance. The reception of such a plan, if properly elaborated, would be a test of her future possibilities.

In the meantime something might be done to meet urgent needs. The high-school boys are started and are developing school spirit. This should be cultivated. Temporary grounds can be obtained and public patronage for all sorts of athletic events built up by judicious campaigning. The physical director should give some time to high-school boys, and some form of physical training should be given regular high-school credit. Supineness on the part of the school authorities, including the Board of Education, at this stage would not only be a serious mistake, but would amount to inexcusable negligence.

It has been shown in another place that the tax rate for schools has been uniformly lower in Leavenworth up to 1912 than in any other first-class city in Kansas, and that while Leavenworth has increased her annual rate to six mills on the dollar, it is still beneath the average for those cities. All these tests show that Leavenworth, judged by the Kansas standard, has long been and still is failing to support her schools liberally. If the bonded debt of the city be considered large, it must be remembered that only a little more than one-twelfth of it is school debt, and there is no reason for charging it up to the school board and the public schools.

NOTE.—The omission of physical training for girls in the report does not signify that it is considered unimportant by the Survey Staff. It is just as important that provision be made for the girls as for boys.—DIRECTOR OF SURVEY.

## CHAPTER XXX.

### SCIENCE IN THE HIGH SCHOOL.

Walter S. Monroe.

THE courses offered are in botany, chemistry and physics.

#### BOTANY.

Owing to lack of the necessary equipment, botany is taught primarily from books. Instead of commenting upon the subject as now taught, we shall call attention to certain community needs and suggest some features of a course which would contribute to those needs.

There is a vital demand for a high-school course in which boys and girls may learn of the propagation and cultivation of plants. How to produce and care for plants should form the core of the course, and the form, structure, activity, morphology, evolution and classification of plants and their parts should be studied only so far as they contribute to that end. The laboratory work should include actual work with plants. In one school the writer has observed students setting out shrubs to beautify the lawns of the residents of the city. The work was done under the direction of the teacher. Valuable service was rendered to the owners of the lawns, and the students received excellent laboratory training.

Often the students' own homes will furnish an excellent laboratory. Flower beds, cold frames, the garden, the lawn, and plants for the house, offer excellent opportunities for the best kind of laboratory work. In Massachusetts a home project plan very similar to this is being tried for teaching agriculture. (See Bulletin No. 8 [1914], United States Bureau of Education.) In addition there should be a school laboratory, and if possible a school garden. The Colebrook Academy in a town of only 3000 is equipped with a small greenhouse, and such is not beyond the future possibilities of Leavenworth.

#### CHEMISTRY.

For the teaching of chemistry there is a well-equipped laboratory and a recitation room which is used in common with the classes in physics. Except for the last six weeks, the course follows the state texts, Hessler and Smith, and White's Laboratory Manual. The last six weeks are devoted (*a*) in the laboratory to food and qualitative analysis, (*b*) in the lecture room to household, food, and practical chemistry.

A parallel course in practical chemistry is given by lectures, illustrated in most cases by lantern slides, and dealing with such subjects as natural waters, impurities and purification, nitrogen and its compounds, the making of ice and liquid air, the manufacture of sulphuric acid, and ionization. Visits were made to plants employing chemical processes, as: water softening, continuous and intermittent systems; laundry processes, flour bleaching, purification of city water, foundry processes, etc. Also a visit was made to Kansas City, to the soap factory of Peet Bros., Griffin Wheel Works, glass works, brass foundry, and government assay and testing laboratories.

## PHYSICS.

For physics there is a separate laboratory which is only moderately well equipped for work by the pupils. The total value of the apparatus is large, but many expensive instruments are valuable primarily only for lecture and demonstration purposes. For some of the student work there is equipment for only two or three groups, which requires that a large number of students work together. On one visit to the laboratory the writer found the entire class working with a single set of apparatus. Thus students' work in the laboratory is handicapped; but this is balanced in part by the varied equipment.

The classes in physics average  $2\frac{1}{2}$  recitation periods and  $2\frac{1}{2}$  double periods of laboratory work per week. The text this year is Millikan and Gale, *A First Course in Physics*. The *Laboratory Manual* by the same authors is used, and from this twenty-five of the most valuable experiments are selected, together with about ten others chosen from various standard texts, or made up to fit the apparatus at hand, and presented by mimeograph copy to the pupils.

Before an experiment is begun in the laboratory the principles involved are developed before the class. The pupil then does the assigned work and hands in at the close of the period a pencil copy of the data obtained in the experiment. This is handed back to him corrected and graded. If his conclusions are wrong they are rechecked in the afternoon or at the next laboratory period. Within a week after the data are collected the pupil hands in a write-up of his experiment, which includes (a) description of the apparatus used and method of obtaining the data; (b) drawing of essential apparatus; (c) answers to questions asked in the text, and a summary of general discussion of 50 to 500 words (giving references) of the subject of the experiment. For much of the work the pupils work in groups of two, more frequently in groups of four, and sometimes in larger groups, depending on the experiment and equipment.

Accompanying both recitation and laboratory work, and paralleling them as closely as possible, is a course of practical physics, which consists of:

(a) Lectures by the instructor and others upon such subjects as (1) production, measurement and use of extreme temperatures, (2) radioactive substances, (3) wireless telegraphy, (4) the X-ray and its use in medicine, (5) the gas engine and automobile, (6) artificial ice, (7) steam power-plant engineering, (8) use of electricity in the home. Part of these are illustrated by lantern slides, and they are reported by the class in an extensive theme.

(b) Visits to various industrial plants, such as (1) electric-light plant, (2) telephone exchange, (3) X-ray machine of physician, (4) wireless telegraph and laboratory at Fort Leavenworth, (5) furniture factory, (6) Great Western Manufacturing Company, (7) stove works, (8) Soldiers' Home power and heating plant, (9) bridge works, (10) roller mills, (11) state prison mine, (12) federal prison, (13) power-transforming station, (14) Fisher machine shops, etc.



During the spring one day is spent in Kansas City visiting the Armour packing plant, the Loose-Wiles candy and cracker plant, the Ridenour-Baker Wholesale Company.

These visits are gone over carefully with the class and a mimeograph copy of directions for a theme is given. These themes include from 1000 to 4000 words, and must show an extensive knowledge of the plant or industry visited.

A state text in physics is not prescribed by law, and last year a different text was used. Next year it is planned to use a text which has appeared within the last few months, or mimeographed copies of a text which the instructor is writing. This shows initiative on the part of the instructor, and the class can not fail to catch some of his enthusiasm.

As indicated in the outlines of the courses in the case of both physics and chemistry, there is a very evident attempt to connect the work of the classroom with activities of the community. This is in accord with present tendencies, and the writer believes that continued progress should be made in this direction.

It has been mentioned that the reports of visits to industrial plants "must show an extensive knowledge of the plant or industry visited." This is particularly important. The historical, economical and commercial aspects of the industry may be studied with much profit.

The outlines of the courses do not indicate that the pupils are allowed freedom for initiative in choosing laboratory experiments. Complete freedom can not be given, but if the size of the classes and the equipment permit, good results are often obtained by permitting some opportunity for initiative both in choice of experiments and in the method of working them out. Problems brought from home or from the community are excellent, if not too difficult, even though they are not found in any laboratory manual. Boys often become interested in constructing a steam engine, an electric motor, a wireless telegraph, etc. Such enterprises represent the best type of laboratory work if initiated by the pupil. However, they should not replace all of the set experiments, but may properly be accepted in lieu of certain experiments.

## CHAPTER XXXI.

## SOCIAL STUDIES IN THE HIGH SCHOOL.

Walter R. Smith.

## HISTORY.

THREE units in history are taught. One is in ancient history during the first year. This is followed by a unit of mediæval and modern history, which in turn is followed by a unit of American history. One unit is required of all students; the others are elective. The required unit may be any one of the three, except that students in the normal training course must take American history.

Myers' Ancient History and Myers' Mediæval and Modern History are used as texts for the first two units, and Muzzey's American History for the third.

This course is the usual one. The texts are also not unusual, except that Muzzey is a much better history than is generally found in Kansas high schools. The regular topical questions and answers are in evidence in the teaching, and some supplementary reading and reference work is required. Maps are used in all rooms, and a reference library, rather full and fairly well selected, is at the students' command. One difficulty with the library is that older books and standard sets, both of which tend to frighten young students, are better represented than single volumes and newer books.

## CURRENT EVENTS.

Many of the recitations were opened with current events. A student was called upon to give his current event. He rose and did so. Some were well selected and showed discrimination. Others were indifferently selected and poorly given. Most were passed by without criticism or comment. From five to ten minutes were thus used.

The whole of this part of the recitation was treated incidentally. No effort was made to correlate it with the subjects under study. One of the topics for the regular lesson was the Clayton-Bulwer Treaty of 1857. What a golden opportunity to direct the current events topics to a study of the Panama canal at present! Also to a comparison with the Hay-Pauncefote Treaty and its possible violation by the canal-tolls bill which President Wilson is now trying heroically to get repealed. Two or three days spent with the class studying this whole canal subject, from its beginning with the above treaty to the present hour, would do more to show students the value of history and give them historical-mindedness and historical training than several times the amount spent in isolated topical recitation.

Again, the value of current events depends in a large measure upon teaching the students to read newspapers discriminatingly. This can not be done without criticism from the teacher and making of each topic a matter for possible class discussion and estimate. One student did recite on an event in the Mexican situation which aroused discussion. But

the teacher gave the facts instead of holding the matter over for class investigation. There was no effort to get the class to follow the Mexican situation, which was by all odds the most important on the political horizon. It will thus be seen that the current-events work was deliberately made a side issue, and hence perfunctory, when it might have been made, especially in the senior American history class, the vitalizing feature of the whole study. It was an innovation to deal with current events at all; but one more step ought to be taken in dealing with them seriously and studiously. Current events are historical events, the most important of all historical events—the hardest to teach well, but when traced to their historical origins, the most remunerative of all history teaching.

#### THE TEACHING OF HISTORY.

The questions asked on the text were topical and well put. Most often they were put to individuals rather than to the class, and the individuals recited to the teacher. In general it may be said that there seemed too little recognition of the class as a body, as distinguished from a collection of individual students. There was one exception to this rule, in which the teacher had some pupils face the class when reciting, and the whole class were asked certain questions, showing a slight recognition of the class as a social group. In general there was little cross-questioning of students to train originality and independence of judgment. Nor was there sufficient perceptible effort in any class visited to connect historical events with present-day problems in order to furnish practical motives for work. History was taught as a static subject dealing with fixed facts, rather than as a study of causes and effects actively molding institutions and advancing civilization. Past society was divided vertically by chronological periods in the old way. Little special effort to vary this order by horizontal divisions, tracing institutions back to their origin or extending topical discussions forward and backward, was visible.

An illustration of possibilities along this line was presented in an ancient-history class observed. The class were studying Persian history. They had under discussion the Persian religion. Ormazd and Ahriman were pointed out as the struggling gods of good and evil. The simplest method of approach to drive home the facts would have been a comparison with the Hebrew religion. This would have been a lesson in comparative religion that might have aroused brain-stretching thought in addition to fixing the historical facts in mind. And the final element in motivation would have been to ask the pupils to point out the resemblances and differences between the Persian religion and their own.

Another illustration from the same class came with the analysis of the Hindu caste system. The differences between ancient social classes and the Indian castes was brought out; but there was apparently no effort to compare them with present-day social classes in Europe and America. Such a comparison would have brought it into the ordinary thinking field of the pupils and stimulated evaluative judgment and initiative.

Such possibilities of tying up history with present-day thought are more frequent in the study of later periods of history and should not be overlooked. History must be made to live. It must stimulate the pupil to original questions and thoughtful comparisons if in after life it is expected to lead him to ground his social thinking upon a sound historical basis.

There were some exceptions to this lack of motivation and application. For example, in one class there was an animated discussion whether or not Peter the Great was a great man. Comparisons were used, and the fact was elicited that Peter could not be judged by present-day standards. Even in this case there appeared to be some anxiety lest the amount of time consumed in really constructive training should cause the class to lose a paragraph giving unimportant facts about the reign of Ivan the Terrible.

Taken as a whole, it may be said that the teaching of the conventional things is excellent. The kind needs some revision, however. All the teachers are college graduates and quite above the average in teaching skill. But some of them are not historically trained and their efforts need better direction. They need a more social point of view—a clearer conception of the practical results that should be accomplished in history teaching. None seemed to have thought out fully—and few history teachers have—the most important purpose of teaching history, or to have realized that the most important history happened yesterday; or, again, that history is a kaleidoscopic procession of unfolding events, not a series of fixed panoramas. As in the grades, a knowledge of the end to be gained, and more independence in teaching the boys and girls what the teacher feels is best for them, rather than a textbook, is the great desideratum. Quality of training rather than quantity of knowledge should be sought, and it can be attained without any loss in quantity of information imparted.

#### CIVICS.

Civics is taught as a half unit in the second semester of the third year to students in the normal-training course, and may be elected by seniors in other courses. Gitteau's Government and Politics in the United States is used as a text. Observations and conferences indicated that considerable reference work was done. The text seemed a little formidable for a half-year's work, if any initiative was to be left to teacher and pupil.

Yet some initiative was taken, as the writer observed when he came into a class actively interested in a debate to take the place of the following recitation. This debate was asked for by the students, and they were working eagerly on it—a thing not quite so visible in their ordinary work. The question was a good one for debate—prohibition against high license—and arose out of a classroom discussion. Here was motive, a basis in belief, a real situation growing out of environment; consequently energy was lavished, the intensity of effort that educates was being put forth, and the writer is compelled to believe that more civics that is worth while grew out of that debate than from a week of the sort of recitations often found in high schools.

The recitation observed was well planned. There was a distinct effort to make civics vital. Questions were asked calling for knowledge of what is going on in local, state and national government. If knowledge of this kind seemed a little too scarce, it might well be due to past environment rather than recent training. More definite effort to stimulate newspaper and magazine reading would aid in remedying this weakness, and should be applied. Other debates calling for such reading would be helpful, and class visitation to civic institutions should be more frequent.

As in many places, the evil effect of an impending formal examination was visible. An inquiry as to the reason for going two months without a debate, when it seemed so effective, led to the reply that the students had shortly to take the state examination for a certificate; also, that the tests called only for dead information and constitutional facts which useful current information would not provide, and consequently it was necessary, in order to meet the formal test demanded by the state, to conserve time by robbing the students of the privilege of doing both the interesting thing and the one that is a direct preparation for citizenship.

While this handicap is recognized, the writer wishes to urge that as rapidly as possible the course in civics outlined by the Committee on Social Studies of the National Education Association be adopted. This outline is as follows:

#### I. GOVERNMENT AND PUBLIC WELFARE.

Fully two-thirds of the time should be devoted to this topic. Here the pupil studies those activities of the government which influence his life more frequently than those ordinarily classified under the next topic—government machinery. Here he learns how broad is the work of the government and how intimately it influences the life of the individual. The real meaning of government dawns upon the pupil when he learns of the roads, of the weather, of mineral resources, of labor and commercial conditions, and of many other things too numerous to mention. Non-governmental organizations engaged in work for social improvement should be discussed in connection with the governmental functions to which their efforts are most closely related.

The following topics are suggested: (1) Health and sanitation: Housing, pure food and milk, sewerage, waste disposal, contagious diseases, statistics, medical inspection of school children, health crusades. (2) Education. (3) Recreation. (4) Charities. (5) Correction: Juvenile courts, reform schools, etc. (6) Public utilities: Transportation, light, telephone, telegraph, postal system, water, etc. (7) City planning: Sanitation and beauty.

#### II. GOVERNMENT MACHINERY.

Local, state, national; legislative, executive, judicial; courts and legal processes; election and political activities, including such topics as initiative and referendum.

#### III. THE DEVELOPMENT OF GOVERNMENT.

Social psychology, democracy, the family, and other social organizations.

This plan of study ought to call for more initiative than an over-worked high-school teacher can be expected to show. But texts based upon this outline will shortly be published, and in the meantime all topics here mentioned should be stressed. And even the persons making out the examination questions will be influenced by the new trend. So a forward movement and a community view are necessary to keep this department in line with progressive education.

## ECONOMICS.

No attempt is being made to give economics at present. A course has been given at times in the past, however, and one is being planned in the commercial course for next year. This course should without doubt be given. The teacher of commercial subjects rightfully pointed out that a good practical course in economics could be made more interesting and helpful than the commercial geography the students were then reciting. It should be required in the commercial and industrial courses and be elective in the others.

There are two possibilities of handling economics in the High School. One is to join the work to the history course as an additional social study. This is generally done, and the plan is recommended by the Commission of the National Education Association. But all too frequently it leads to purely industrial history, which should occupy a large share of the time of the American history class, or to an undue emphasis upon abstract theory. The other possibility is to make it a commercial study. This in reality is where it belongs, and the writer believes that the recommendation of the Commission should be revised to that extent. Economics is merely a study of business. There is some danger in having it coupled to the commercial course, because of a tendency there to emphasize accountancy and routine rather than the larger principles and relations of the business world. But economics must be made an applied study to fulfill its proper function. The textbooks of the past have been too theoretical and scientific. Like other studies working their way down through the curriculum from the university, economics still has the academic flavor. But many efforts are now being made to write texts for students rather than for the sake of the science, and better adaptation to high-school needs may be expected. Economics should be and some day will be made the most valuable study in the commercial course, and a practical help in citizen training for all others who elect it.

## RECOMMENDATIONS.

In conclusion the writer wishes to endorse most heartily the preliminary recommendations of the National Education Association relative to the reorganization of the high-school course in history, civics, and economics. This committee is made up of eighteen educators interested in this particular work, and they have agreed—something teachers do not always do. They are putting in definite form what progressive teachers along these lines have been thinking and striving for. They represent the vanguard of thought and enlightened planning, and it can be stated with confidence that where they are leading the Leavenworth High School will ultimately follow. The writer wishes to urge with all the vehemence in his power that the course of study be headed that way at once.

This committee proposes to outline the five following units of social studies:

1. Community civics and survey of occupations.
2. European history to 1600 or 1700 (including English and colonial American history).

3. European history since 1600 or 1700 (including contemporary civilization).

4. United States history since 1760 (including current events).

5. Economics, and civic theory and practice.

Probably the best reasons for this reorganization of the course will appear in the statement under the heading "The Point of View," which we are quoting entire:

"It is probable that the high-school teachers of social studies have the best opportunity ever offered to any social group to improve the citizenship of the land. This sweeping claim is based upon the fact that the million and a third high-school pupils are probably the largest group of persons in the world who can be directed to a serious and systematic effort, through both study and practice, to acquire the social spirit.

"Good citizenship should be the aim of social studies in the High School. While the administration and instruction throughout the school should contribute to the social welfare of the community, it is maintained that social studies have direct responsibility in this field. Facts, conditions, theories and activities that do not contribute rather directly to the appreciation of methods of human betterment have no claim. Under this test the old civics, almost exclusively a study of government machinery, must give way to the new civics, a study of all manner of social efforts to improve mankind. It is not so important that the pupil know how the President is elected as that he shall understand the duties of the health officer in his community. The time formerly spent in the effort to understand the process of passing a law over the President's veto is now to be more profitably used in the observation of the vocational resources of the community. In line with this emphasis the committee recommends that social studies in the High School shall include such topics as the following: Community health, housing and homes, public recreation, good roads, community education, poverty and the care of the poor, crime and reform, family income, savings banks and life insurance, human rights versus property rights, impulsive action of mobs, the selfish conservatism of tradition, and public utilities.

"Long as the foregoing list is, it is quite apparent that many more vital topics could be added. It is therefore important to understand that it is not the purpose to give the pupil an exhaustive knowledge of any one subject, but rather to give him a clue to the significance of these matters to him and to his community, and to arouse in him a desire to know more about his environment. It is to help him to think 'civically' and, if possible, to live 'civically.' Teacher and pupil must realize that they are studying living things. They must not be content with the printed page. Everything and everybody in the community must be drafted into the service of the boy and girl striving to become an effective part of the 'body politic' and a constructive member of the social group. Companions in the schoolroom and on the playgrounds, workers in philanthropy and reform, government officials and business leaders, voters and laborers of every class, are all material for the classroom and laboratory in the social studies.

"History, too, must answer the test of good citizenship. The old chronicler who recorded the deeds of kings and warriors and neglected the labors of the common man is dead. The great palaces and cathedrals and pyramids are often but the empty shells of a parasitic growth on the working group. The elaborate descriptions of these old tombs are but sounding brass and tinkling cymbals compared to the record of the joys and sorrows, the hopes and disappointments of the masses, who are infinitely more important than any arrangement of wood and stone and iron. In this spirit recent history is more important than that of ancient times; the history of our own country than that of foreign lands; the record of our own institutions and activities than that of strangers; the labors and plans of the multitudes than the pleasures and dreams of the few."

## CHAPTER XXXII.

## THE RELATIONS OF THE SCHOOL AND THE COMMUNITY.

Walter R. Smith.

## THE FUNCTIONS OF PUBLIC SCHOOLS.

THE democratic developments of the nineteenth and early twentieth centuries have undermined the idea that the school is an aristocratic institution. Whether or not the common people embody as large a per cent of talent and genius as the upper classes need not here be discussed because it is no longer doubted that they embody a large enough per cent to justify their education. This would be true even if the training of the exceptional man were admitted to be the highest aim of an educational system.

Present educational theory, however, does not admit that it is, nor is our American educational system based upon that theory. Free, public, compulsory education is democratic education. It is mass education and must be administered for all classes. An analysis of educational history shows three fundamental lines of development: The first is from the select classes to the masses. The abolition of slavery, the elimination of serfdom and the rise of the laboring classes have made this development necessary. The second is a transition from private and elective to public and compulsory education. The extension of the province of government and of universal suffrage has made this essential. The third is a change from ornamental and leisure-time to useful and work-time education. The struggle for a higher plane of living for all the people has made this development fundamental to our civilization.

The state of advancement of any educational system may be measured by its relation to these three standards, but the test must be specifically applied. An educational system may be open to all and yet not be taken advantage of by all. It may be nominally compulsory and yet not reach all. It may offer useful studies and still not prepare all to elevate their plane of living. And that is exactly the condition of our public schools. They are open to all, yet all do not enter. The law tries to compel all to gain the rudiments of an education, yet 8.4 per cent of our voters are illiterate. Our schools try to be useful, but many students drop out to get a more practical training for advance in the business world.

Other parts of this Survey have dealt with other phases; but this part will be confined to a discussion of the wider outreaches of the schools—the intimacy between the school as at present organized and other community interests. Along no other line do the above-mentioned tests offer less basis for local pride than here; and in no place are there more things remaining to be done. It is the judgment of the whole Staff that there is a wider gap between the Leavenworth Public Schools and the public than in most progressive cities. Certainly it is wider than it need be or than is for the best interests of both the schools and the city. If



the schools are to reach all and to train all for citizenship, and to enable all to earn an honest living, it is necessary for all to get together in closer educational relationships.

In order to deal definitely with the subject it may be well to consider these relations under five heads:

1. School extension work.
2. Public use of the school plant.
3. Relations of school and patrons.
4. The school, the home, and the church.
5. The school and business.

#### SCHOOL EXTENSION WORK.

Three lines of extension work are being done in many cities. There is need for all of them in Leavenworth. The first one is the offering of graduate electives. This may be done in either of two ways. If facilities were adequate a regular year of graduate work might be organized. It would be too much to expect at present that if the high-school curriculum is reorganized a year be added to each of the various courses. But there are always students who might be willing to take another year of work in order to get certain studies they were unable to elect during the regular course if definite announcement could be made that they would be provided for. This is being done already in the normal-training course, and might be extended with very little cost. The other plan is to allow part-time attendance for special work like domestic science or art, manual training, music, bookkeeping, etc. This has already been done to a limited extent in domestic science, and has been helpful not only directly but indirectly in fostering the parent-teacher associations. One or both of these plans could be expanded and definite provision for extension work could easily be made, thus serving and cultivating a wider public.

#### NIGHT SCHOOLS.

The second phase of extension work is the establishment of night schools. Night-school work has passed definitely beyond the period of experiment. It has become real. The field was first cultivated by correspondence, business, trade and professional schools. But their success led to a demand for publicly supported courses supplementing school work. In almost every city where such opportunities have been offered the response has been astonishing. Leavenworth's near neighbor, Kansas City, Kan., has a total night enrollment of 2300, and Kansas City, Mo., about 8000.

Night-school work is peculiarly inexpensive because the equipment is already at hand. The buildings and apparatus have been acquired for the day schools. They are also heated, and almost the whole expense is for lighting and teaching. Many teachers are willing to give extra service for very little extra pay. Moreover, night-school work is especially rewardful from the fact that students are in earnest and many of them are struggling with poverty. They have found the need of additional education. Hence the discipline feature is eliminated and the teacher's burden lightened.

Night schools also have a valuable reactionary effect upon day schools. Since the students are in earnest, and since they are more mature, their actual needs are looked after. They have found by experience what is most valuable in education, and by pleading are able to influence the pedantic pedagogue to eliminate the impractical and unnecessary. Leavenworth can afford them for their pedagogical effect upon the day school.

But that is not their most valuable contribution. The schools are paid for by the public, and the public wants to be served. The fact that a boy has to leave day school and go to work is no proof that he is unworthy of a public education. Nor because he makes a mistake and voluntarily quits should he be deprived of advantages if he later desires them. There is nothing sacred in the usual hours for obtaining an education; and if they can be extended at small cost it is abundantly worth while.

Leavenworth is in more need of night schools than most cities of its size. It is a factory town, and the employment the factories offer lures young people to leave school earlier than would the work in less highly organized and mechanized industries. The laboring population is large, and the sons and daughters of laborers drop out of school to add their earnings to the family exchequer. And since the employment they secure is highly differentiated work and may not call for all the kinds of energy youth provides, some can pursue work in a night school without appreciably lowering vitality and still earn their wages.

But the need of night schools is not all theory. Investigations pursued by the High School Boys' Club present facts. A Kansas law provides that a board of education must establish a night school when it is petitioned for by the parents of ten children who desire to take advantage of it. Practically double that number of signatures have been secured, and the night school will doubtless be started next year. If properly organized and advertised, it is sure to be an instantaneous and continuous success.

#### THE VACATION SCHOOL.

The third line of extension work needed is the vacation school. During three months of the year Leavenworth has over four thousand school children with practically nothing to do. They are not vagrants because society expects little of them. But they have no occupation. In the old days of gardens and elaborate household duties and a home that provided manual training and occupational duties, this was not such a serious thing. But now the father is in the store or office or shop and the mother is busy. The child is free and generally idle.

Several citizens were asked what these four thousand children did. There were two answers: "I don't know"; "They are on the streets." This was evident, even in winter time, because diligent search failed to reveal adequate play spaces. Public parks were absent for the reasons previously stated. As shown elsewhere, the school grounds are mostly small and cramped. Private charity has provided two playgrounds. One man bought the apparatus. A few charitably inclined women raised the money for running expenses. Last season's budget of expenses for these two playgrounds totaled \$180. One was adequate in size and equipment but was located in a sparsely settled district; the

other was microscopic. The result was an average daily attendance of about fifty-five children. Where were the remainder of the four thousand?

This showing indicates the vast field open to the Leavenworth schools. Those four thousand children should not be objects of charity. The public not only owes them an opportunity for health-giving play, but it owes them the same opportunities for proper development during vacations that they get at other seasons of the year. It need not, and probably ought not, generally to be the same sort of training; but it ought to be as definitely supervised as during the school year. Wherever this summer work has been undertaken it has at first been tentative, then real; first charitable, then public. Supervised play develops into supervised work that is educational.

This work in Leavenworth should doubtless follow the usual line of evolution. The charitable stage has been useful, but it can not go far. It is to be hoped that this charitable spirit will take the direction of educating the public to the possibility and need of civic control. And the best means of reaching the problem is through the schools. Some of the school grounds are adequate for a beginning. The Morris School ground is large enough and is well located for the purpose. The Maplewood and Sumner grounds are also large enough to be useful, if the "keep off the grass" idea can be eliminated from the latter. No possibilities are in sight in the most "respectable" district, but doubtless a centrally located playground could be obtained. Land for school gardening could be rented cheaply.

One trained supervisor might be obtained by the school board. Assistants ought easily to be obtained for the present from primary teachers located in Leavenworth who would be glad of the training provided by an expert. Plays and games of a competitive and educational sort should be used, but generally the most interesting features come in such things as clay modeling, manual-training work of an ingenious kind, folk dancing, swimming where possible, nature-study trips, and actual gardening for profit. Apparatus and supplies are useful, but wholly secondary to trained supervision. Once undertaken, this work is never abandoned, and year by year becomes more efficient and helpful to the general education of the child.

A less worthy but frequently more appealing motive comes in the effect of vacation work upon delinquency. Wherever supervised play has been tried, it is found that the work of the juvenile court is greatly reduced. Tests in Chicago, Buffalo, Rochester, Washington, New York and many other cities show that the saving in the handling of juvenile delinquency goes a long way toward paying the costs of this supervised play. And properly handled it is only slightly less educative than regular school work.

#### PUBLIC USE OF THE SCHOOL PLANT.

The second phase of community-school relations is shown in the use made of school property. School buildings are paid for and owned by the public. They are in general centrally located for community purposes. They must be kept heated, and generally are lighted. Extra

expense for janitors' services and incidentals is slight. The school building thus becomes the best place for a community social center.

One looks in vain for any organized social centers in Leavenworth. Not that they are not needed, for the conditions are peculiarly favorable to the accomplishment of a real mission through them. Organized recreations in some parts of town are few. Temptations are numerous. Unsupervised amusements are always dangerous. And every opportunity that can be offered by the home, the church and the school to direct leisure time will not be too many. These are the three organized institutions best fitted to cope with evil influences, and no one of them should be recreant to duty. *Every evening spent in the schoolhouse under proper surveillance is a disqualification for pleasure in the underworld.*

A variety of things can be done to make these evenings worth while. A reading room can be established with books and old magazines that will be gladly donated. Picture shows, talks, civic discussions and debates, literary societies and social evenings can be organized. Parents and young people as well as the children need elevating entertainment and educational stimulus. All these things will tie the public to the schools. They will make discipline easier, and can be used to foster a higher type of local pride and civic responsibility—much needed in Leavenworth. The two schools for colored children and some of the others in the more remote and poorer districts really need these additional advantages for social, cultural and recreational purposes. These things are being done in many places, and the Survey Staff wish to urge that some of these centers be organized in Leavenworth without delay.

#### RELATIONS OF SCHOOL AND PATRONS.

Four parent-teacher associations, representing six of the schools, have been established during the last year, and others are in prospect. Those in existence are doing good work. Better relations are being established between parents and teachers. Misunderstandings are being ironed out and the home and school are realizing more fully their dependence upon each other. The local associations have their regular monthly meetings, and in addition come together for occasional joint meetings.

Three members of the Staff attended one of these local meetings. Each of the members spoke for a time and then listened to an hour of lively discussion. It was presided over by a member of the Board of Education. Questions of safety from fire, building improvement, closer sympathy and better coöperation between parents and teachers were discussed freely. A specific result of this meeting may be mentioned to illustrate the possible value. A commendable effort is being made through the monthly report card to get parents to grade their children on home conduct. On the back of this card grades on the following points are requested: (1) home study; (2) home duties; (3) obedience.

One parent misunderstood and was incensed with the query, and wrote on the card, "This is my business." But after hearing the discussions and getting the point of view of others, he offered his complete coöperation with the teacher and principal in the future. Such things make the work of both teacher and parent easier and more effective.

This coöperative work also has more remote effects. School equipment and buildings depend upon the citizens' willingness to vote taxes. This willingness in turn depends upon knowledge, and every successful parent-teacher organization brings more fully home to the citizen the needs of the schools. A needed bond issue was voted down half a dozen years ago, although the school's bonded indebtedness was small, because of a lack of this public sympathy and knowledge now being fostered. In the constructive program necessary to put the Leavenworth schools to the front, complete coöperation between citizen and teacher is fundamental and must not be neglected.

#### THE SCHOOL, THE HOME, AND THE CHURCH.

Another phase of school and community relations is the more vital connection between the school and the home. This relation should not only be sympathetic; it should be organic. Many schools have experimented along this line until a definite coöperative basis has been established. All skillfully directed and eagerly pursued work is educative. Scientific cooking or artistic housekeeping in the home is as valuable as it is in the school—even more valuable in educating the girl for her future duties in life. The same is true of accounting, bookkeeping, manual training or other careful and expert work. There is no reason why they should not be given credit toward graduation in school if cautiously estimated and properly correlated with the school course. Wherever such a practice has been properly carried out it has had the quadruple effect of making the school work more interesting and effective, holding the boy or girl longer in school, elevating the standard of home life, and tying the home more fully to the school.

What is true of this correlation of school and home work is equally true of other institutions, especially the church. It would scarcely be less valuable to the school than it would be to the church to have the Sunday school, Y. M. C. A. and the Y. W. C. A. and the young people's societies of the church linked with the public-school work. It would put more seriousness and effort into the church work; it would put more true Christianity and fellowship into the school work, each benefiting by the influence of the other; and the student would get broader ideas of the oneness of all life and higher ideals of complete living and community responsibility. This coöperation is being carefully worked out at the Emporia State Normal by giving school credit to effectively done work in these institutions. Similar work is already done in several progressive cities. The Leavenworth social atmosphere, as pointed out in the opening chapter of this Survey, is in need of the civic spirit and coöperative effort that might be fostered by cultivating the democracy and fellowship and mutual aid of the school, the home and the church.

#### THE SCHOOL AND BUSINESS.

The school and the business world have been far too contemptuous of each other. The school has wrapped its mantle of superiority about itself and looked disdainfully upon business as a materialistic affair. The business world has scorned the scholar, pitied his self-abnegation, laughed

at his pedantry, and condemned the impractical schools. Each has gone his way and neglected the other, and both have suffered thereby.

As business becomes more complex it demands young employees of greater training and adaptability. The schools should supply these. But they can not be supplied without the coöperation of the business world with the schools. On the other hand, the schools have suffered from this lack of coöperation because they have been unable to practicalize their work enough to hold the students. The great dropping off between the first and second years of the High School, amounting to 37 per cent in Leavenworth, is largely due to the lack of association of first-year studies with real life. Miss Jean M. Gordon states truly that the cause of the large percentage of students leaving the schools before they have finished the twelve years of work offered, amounting to over 90 per cent, is the schools themselves. Boys and girls, young men and young women, must not only be interested in their studies, but they must be able to see wherein these studies will be useful in life, before they will take them. We older persons, in our supposed larger wisdom, may decide that it would be best for them to pursue a certain course of studies arranged logically and given in a drill-perfect way. But we have found that nearly nineteen out of twenty in the cities of the United States will not do this. In Leavenworth about nine out of every ten are not doing it.

What, then, you may ask, is to be done? Two things at least must be done before any large decrease can be made in this enormous school mortality. The school studies must be brought into closer relations with the office and shop, and the office and shop must be linked with the schools in the actual teaching of the various branches of study.

This is being done by our most progressive school systems in various ways. Credit is given in the schools for outside work done either in business or in other institutions. The commercial course should be arranged so that credit may be given for practical work done in book-keeping, typewriting, stenography, and clerical work of various kinds. Arrangements may be made with business firms to use advanced students part of the day or week or month while they are in school the remainder. This will give the student some practical apprenticeship experience that will enable him to earn a respectable salary immediately on leaving school.

The industrial course likewise offers large opportunities along this line. Tradesmen, after they have had the experience, are glad to get part-time helpers at little cost. The factories in Leavenworth offer an unusual opportunity for this sort of development. A plan similar to the ones so successfully used in Cincinnati, Boise; Beverly and Fitchburg, Mass.; Lewis Institute, Chicago, and a large number of other schools, might be worked out. The process of tying the school work to the shop should proceed slowly and cautiously, but should none the less be started and developed as rapidly as possible.

For the student who is planning a complete college education and wishes to pursue the old cultural high-school course in preparation for a professional career less needs to be done. In the past the high school has

been arranged largely for him and he has used it. But even Leavenworth has plenty of professional men who failed to take all of the high-school work offered, but would have taken it if it had seemed more practical to them at the time they dropped out. English, mathematics, history and civics, economics, physics, and chemistry—all the old-line studies—should be worked over, are being worked over, to make them applied studies. The civic and industrial and institutional life of Leavenworth is rich in laboratory materials for making these studies real and vital and practical for the student; and the reciprocal effect upon those institutions of turning out large bodies of trained young people who understand the needs and problems of the city would aid in building up a greater and better Leavenworth of the future.

#### NEED OF AN EMPLOYMENT BUREAU.

One other practical phase of this subject must be mentioned in closing. The High School has as yet no definite organization for aiding its graduates in securing positions. Seventy-nine per cent of them do not go to college. Most of this seventy-nine per cent go to work. An employment bureau can be run from the High School principal's office with little expense. Business firms of the city ought to be, and doubtless would be, glad to favor local talent in securing employees. A record of each graduate's qualifications and the opinions of his teachers regarding his character and industry could be on file. Such an employment agency would be useful to both the graduate and the public, and would secure some of that greater intimacy between the schools and the business world which is so much needed in these days of strenuous competition.

#### SUMMARY OF RECOMMENDATIONS.

1. That every effort be made to close the wide gap which is quite conspicuous in Leavenworth between the schools and the public.
2. That other students besides those taking the normal-training course be urged to return for a year of graduate work in the High School, to be taken from studies not elected during their undergraduate career.
3. That home-makers and other overage men and women be invited to elect specific work that will aid them to become more efficient citizens.
4. That night schools be organized and adequately provided for, to begin work at the opening of next school year.
5. That in connection with the juvenile court and the cultural and civic clubs of the city, a trained supervisor of playgrounds be employed for the coming summer to organize the people and facilities already at hand, and thus make a real beginning in the use of the summer season as an aid rather than a hiatus in educational work.
6. That social centers be established at the Morris School, the Maplewood School, and such others as can be used. Also that social and industrial centers be established at the Lincoln and the Sumner schools.
7. That every effort be made to maintain permanently the present enthusiastic parent-teachers' associations, and that their work and interest be widely extended.

8. That arrangements be made with business men to use part-time students in the commercial work and with factories and tradesmen to do the same for students in the industrial course.

9. That girls be given school credit for work properly done in the home. That the same privilege be extended to boys where the work may be considered constructively educative. Also that arrangements be made with the churches to establish actual study classes, effectively taught, for which school credit shall be given.

10. That an employment bureau be run from the High School principal's office to secure work for graduates and to enlist the coöperation of the business men of the community in giving the graduates a proper start in the business world.



## SOME RESULTS OF THE SURVEY.\*

### I. PROGRESS TOWARDS IMPROVING THE SCHOOL PLANT OF LEAVENWORTH.

The probability of rebuilding in Leavenworth has been rather remote until within the last year. The parent-teacher associations very generally discussed the question during the school term of last year, 1914-1915. These discussions led to the formation of a central committee composed of two delegates from each school building, which made an estimate of the expenditure considered necessary to remodel every public-school building in the city. This estimate was carried before the school board in the form of a petition. The committee was asked by the board to ascertain the state of public opinion and was assured that the board stood ready to cooperate by calling a bond election whenever public opinion justified such action. The central committee then concluded its labors by calling a mass meeting, the large attendance at which showed the unmistakable interest of the public. This meeting referred the matter of making a full and complete investigation of the school-improvement problem to a carefully selected committee of fifteen citizens. This committee is expected to report in full in the fall of 1915.

From all this it is plain to see that Leavenworth is safely on the road to more modern school buildings. It is readily admitted by the school authorities of the city that, next to the parent-teacher associations of the city, the Survey has been a leading factor in bringing about what change of public opinion exists, and this change is considerable.

### II. THE REMODELING OF OUR PRESENT SCHOOL BUILDINGS.

In order to meet the fast growing demands for socialized education, and also the demands for some means for socializing patrons as well as pupils, the Board of Education, a year ago, constructed auditoriums in the larger grade buildings of the city. These auditoriums are in constant use in many group endeavors in school, and are also in use by parents in their local meetings connected with the schools.

Most of the dark rooms of the old-fashioned grade buildings have been rendered tenable by additional windows. The Survey assisted materially here.

The Board of Education is carrying out a plan begun some four years ago of installing one new heating plant each summer until all defective plants have been removed. Three new plants have been installed and only two defective plants remain.

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\* This account of some of the results of the Survey is appended to the report of the Survey at the suggestion of Superintendent Moore, and was prepared by him in October, 1915. A first draft of the report of the Survey was placed in his hands about July 1, 1914, and later a summary of the report was made accessible to the teachers, the board of education, and, in some degree, to the public of Leavenworth. When comparing the statistical tables given here with the tables contained in the report certain facts should be noted. The test in arithmetic is not the same as the one used in making the Survey; the conditions under which the samples of handwriting were collected are not given; and a different spelling test has been used.—DIRECTOR OF THE SURVEY.

## III. PARENT-TEACHER ASSOCIATIONS.

Leavenworth has several parent-teacher associations, all of which show signs of healthy growth and endeavor. Four of these associations were organized in 1913 and the remaining three in the following year. They have without question been the most prominent factor in awakening interest in the schools and in education in Leavenworth. In nearly every instance, the programs and discussions have been practical and helpful. The parents who attend these associations are coming to understand the purposes and plans of the schools, and they show a desire to coöperate in realizing these purposes and plans. The benefits of these associations are measured only in their growth, for the more people the associations contain the more good they will accomplish and do accomplish in bringing the people and the schools together.

*Enrollment in the Associations.*

Third Avenue .....	124
Oak Street .....	115
Morris .....	108
Maplewood .....	130
Franklin .....	74
Sumner .....	145
Lincoln .....	95

The Leavenworth parent-teacher associations at present furnish three of the officers of the state organization, the president, corresponding secretary, and one director.

## IV. HIGHER STANDARDS FOR TEACHERS.

*(a) The City Training Class.*

As a direct result of the Survey, the requirements for teaching in the Leavenworth elementary schools have been raised to a higher standard. For years Leavenworth has prepared most of its grade teachers at home, in what has long been known as the city training class. Some four years ago the normal-training course provided for by state law was taken as the nucleus around which to reorganize the training class for the city. In addition to the regular course required by the state for the normal-training certificate, those members of the normal-training class who desired to become members of the city training class were required to take public school music and a course in arts and crafts. To this was added later a course in physical education. After graduation from this course the pupil-teacher was required to do one year of substituting on constant duty (with regular pay) before becoming eligible for a position as a regular teacher. But this plan allowed the prospective teacher to take the state required junior and senior work in high school, thus permitting her to become eligible for a regular position with really only one year of preparation beyond the high school, namely, the year as a substitute. Since the Survey the board has been able to raise the standard, until now the prospective teacher, before becoming a regular teacher, must meet the following requirements:

1. She must be a graduate of an accredited high school before entering the city training class.

2. She must spend two years in the city training class or in a normal school or college equivalent thereto.
3. She must have a state normal-training certificate or its equivalent.
4. She must possess a city certificate determined upon the following elements:
  - (a) State certificate multiplied by 40.
  - (b) Average of daily grades in normal-training class  $\times 20$ .
  - (c) Public-school music  $\times 10$ .
  - (d) Arts and crafts  $\times 10$ .
  - (e) Physical education  $\times 10$ .
  - (f) Practice teaching  $\times 10$ .
5. She must serve one year as a substitute on daily duty, assisting (1) as a teacher when so needed; (2) as office help in the principal's office; (3) as an assistant in making out records, grades, tabulations of school statistics, and in the clerical work connected with tests and measurements; and (4) any other work incidental to teaching which she may be requested to do by the principal or superintendent.

Thus it will be seen that the standard has been raised to a point where three years' preparation beyond high-school graduation is required. Since four years' preparation beyond the high school is all that is required by the North Central Association of Colleges for teaching in accredited high schools, it appears that the present Leavenworth minimum for grade teachers is now as high as one could reasonably expect. It may also be remarked that two years beyond the high school is all that is required for the life certificate by our state normal schools. Measured by this standard, it is again seen that the Leavenworth requirements are above the average.

(b) *Improvement of Teachers in Service.*

The teachers of Leavenworth have always carried forward some character of improvement in service work. Being located in easy reach of the State University, the work for some years has consisted of series of lectures from that institution, sometimes academic and sometimes professional in nature. For the last four years the work has been entirely professional in character. Since the Survey the entire corps of grade teachers has been doing extension credit work for the Kansas State Normal School of Emporia, and the results have been used as the basis for advance in salary. This work consists of fifteen lectures or recitations of not less than fifty minutes each, for one hour of credit, provided a satisfactory examination is passed. The lectures are given under rules and regulations prescribed by the Kansas State Normal School and the final examinations are passed upon by that institution.

(c) *Attendance of Teachers at Summer Schools.*

The comparative data furnished by the Survey revealed that the grade teachers of Leavenworth were about on the average as to the number of teachers attending summer schools; but from the rapid growth of such schools it is evident that this average is ever increasing, and if the local average did not increase correspondingly the city would soon fall behind in this respect. However well teachers may be trained in the home training classes, it is a matter of supreme importance that each teacher bring

to the schools of the city the breadth of outlook on life and education that teachers in service can obtain nowhere else except in the great educational centers in summer sessions, or, if the means can be afforded, in whole years on leave of absence. Since the Survey—and to a great extent as the result of the Survey—there has been a considerable increase in the number of teachers attending summer schools. In addition, the board of education has been asked in a few cases to grant a year's leave of absence in order that the applicant might pursue special courses in professional schools.

#### V. THE USE OF TESTS AND MEASUREMENTS.

With the Survey the school authorities of Leavenworth began the use of standard tests for measuring products of instruction in the common branches. The Leavenworth Public Schools are now provided with an expert for making these tests and directing the use of the tabulated results. The results are reported to teachers, principals, and the superintendent. As previously indicated, the Survey has been of material help in initiating this work in the school system. For results of tests in 1914-'15, and up to the present time in the term of 1915-'16, see page 201.

#### VI. REVISION OF THE COURSE OF STUDY.

Within the last four years the course of study in the Leavenworth Public Schools has been thoroughly revised and modernized, as has also the method of its administration by the principals and teachers. The teachers are at present engaged in rewriting the course and bringing it into complete correlation and harmony. The results of this serious attempt to adapt subject matter to life as we live it (not as our fathers lived it) has been to increase the school population nearly 8 per cent in a city whose aggregate population is at a standstill. Wherever possible—and that means in nearly every condition and situation—subject matter has been filled with human interest and hitched onto life with actualities instead of supposed cases. For illustration, the children of the city are no longer asked to write compositions with the scrutiny and correction of the teacher as the only motive, but they are offered the same motive that induces the grown-up to write—publication and financial reward. To accomplish this the grade schools maintain a twenty-four-page quarterly publication, folio size, which contains the meritorious compositions of the children (no others accepted). This composition is paid for at so much per word, and every child in the city has a chance to earn money writing for this paper. The writings to be accepted must conform to a certain standard lately set up for measuring composition.

The Use of Tests in the Leavenworth Public Schools.\*

COURTIS STANDARD RESEARCH TESTS IN ARITHMETIC, SERIES B, MAY, 1915.

Class Medians.

ADDITION—SPEED.					
Grade.	4th	5th	6th	7th	8th
Standard . . . . .	5	7	9	11	12
Morris . . . . .	5	5	6	8	8
Third Ave. . . . .	5	6	8	8	9
Oak Street . . . . .	4	6	7	7	8
Sumner† . . . . .	3	8	9	16	13
Maplewood . . . . .	5	6	7	..	..
Franklin . . . . .	5	7	8	..	..
Jefferson . . . . .	6	6	..	..	..

ADDITION—ACCURACY.					
Grade.	4th	5th	6th	7th	8th
Morris . . . . .	50	70	55	50	70
Third Ave. . . . .	50	60	55	80	70
Oak Street . . . . .	50	60	55	60	70
Sumner† . . . . .	30	50	50	60	50
Maplewood . . . . .	80	80	100	..	..
Franklin . . . . .	100	80	60	..	..
Jefferson . . . . .	70	80	..	..	..

SUBTRACTION—SPEED.					
Grade.	4th	5th	6th	7th	8th
Standard . . . . .	6	8	10	11	12
Morris . . . . .	5	7	8	10	11
Third Ave. . . . .	3	5	7	10	9
Oak Street . . . . .	4	6	7	7	8
Sumner† . . . . .	8	9	13	22	22
Maplewood . . . . .	5	6	7	..	..
Franklin . . . . .	5	6	7	..	..
Jefferson . . . . .	7	7	..	..	..

SUBTRACTION—ACCURACY.					
Grade.	4th	5th	6th	7th	8th
Morris . . . . .	50	65	75	70	70
Third Ave. . . . .	50	50	55	75	80
Oak Street . . . . .	50	70	60	65	60
Sumner† . . . . .	30	50	50	50	80
Maplewood . . . . .	80	80	100	..	..
Franklin . . . . .	100	80	70	..	..
Jefferson . . . . .	80	80	..	..	..

MULTIPLICATION—SPEED.					
Grade.	4th	5th	6th	7th	8th
Standard . . . . .	5	7	9	10	11
Morris . . . . .	6	6	8	9	11
Third Ave. . . . .	4	5	7	7	9
Oak Street . . . . .	4	7	7	9	9
Sumner† . . . . .	3	7	7	7	11
Maplewood . . . . .	4	6	6	..	..
Franklin . . . . .	4	6	7	..	..
Jefferson . . . . .	5	7	..	..	..

MULTIPLICATION—ACCURACY.					
Grade.	4th	5th	6th	7th	8th
Morris . . . . .	60	70	65	60	70
Third Ave. . . . .	50	100	100	70	70
Oak Street . . . . .	50	60	60	70	70
Sumner† . . . . .	30	50	50	50	70
Maplewood . . . . .	80	80	100	..	..
Franklin . . . . .	80	80	60	..	..
Jefferson . . . . .	80	80	..	..	..

DIVISION—SPEED.					
Grade.	4th	5th	6th	7th	8th
Standard . . . . .	4	6	8	10	11
Morris . . . . .	5	6	5	7	9
Third Ave. . . . .	3	3	5	5	8
Oak Street . . . . .	4	5	5	7	7
Sumner† . . . . .	3	7	7	11	13
Maplewood . . . . .	3	4	5	..	..
Franklin . . . . .	3	5	6	..	..
Jefferson . . . . .	4	4	..	..	..

DIVISION—ACCURACY.					
Grade.	4th	5th	6th	7th	8th
Morris . . . . .	40	60	70	80	80
Third Ave. . . . .	50	70	80	90	80
Oak Street . . . . .	50	70	60	75	75
Sumner† . . . . .	30	50	50	70	80
Maplewood . . . . .	70	70	100	..	..
Franklin . . . . .	100	80	80	..	..
Jefferson . . . . .	80	80	..	..	..

STARCH'S READING TEST, 1914-'15.

Measurement of Speed.

The rate is given in words per second.

School.	3d grade.	5th grade.	7th grade.
Standard . . . . .	2.1	2.8	3.6
Morris . . . . .	1.5	2.9	3.5
Third Avenue . . . . .	3.0	3.9	4.3
Oak Street . . . . .	2.3	4.0	3.5

\* These tabulations were made by Ira J. Bright, efficiency expert for the Leavenworth Public Schools.

† Colored school.

*Measurement of Comprehension.*

The rate is given in words per 30-second period.

<i>School.</i>	<i>3d grade.</i>	<i>5th grade.</i>	<i>7th grade.</i>
Standard .....	24	33	45
Morris .....	21.5	37.5	51.5
Third Avenue .....	21	43	44
Oak Street .....	35	41	55

**HANDWRITING MEASURED BY THE THORNDIKE SCALE, 1914-'15.**

The numbers represent the average score for each grade in terms of Thorndike's Handwriting Scale as determined by sixteen judges.

<i>Grade.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
Morris .....	7.7	10.5	11.7	11.2	12.4	12.5	14.5	14.3
Third Avenue .....	9.5	10.2	10.0	9.3	11.3	10.9	14.7	15.3
Oak Street .....	9.5	9.2	11.3	11.5	12.5	12.0	13.4	13.5

**HANDWRITING MEASURED BY THE THORNDIKE SCALE, 1915-'16.***Class Medians.*

<i>Grade.</i>	<i>4th</i>	<i>5th</i>	<i>6th</i>	<i>7th</i>	<i>8th</i>
Morris .....	11	13	12	12	14
Third Avenue .....	10	11	11	13	13
Oak Street .....	8	11	11	13	11
Sumner (Colored) .....	12	11	12	13	15
Maplewood .....	10	13	13	..	..
Franklin .....	11	11	12	..	..
Jefferson .....	11	..	..	..	..
Lincoln (Colored) .....	10	10	11	11	10

**AYRES SPELLING SCALE, 1915-'16.***Class Medians.*

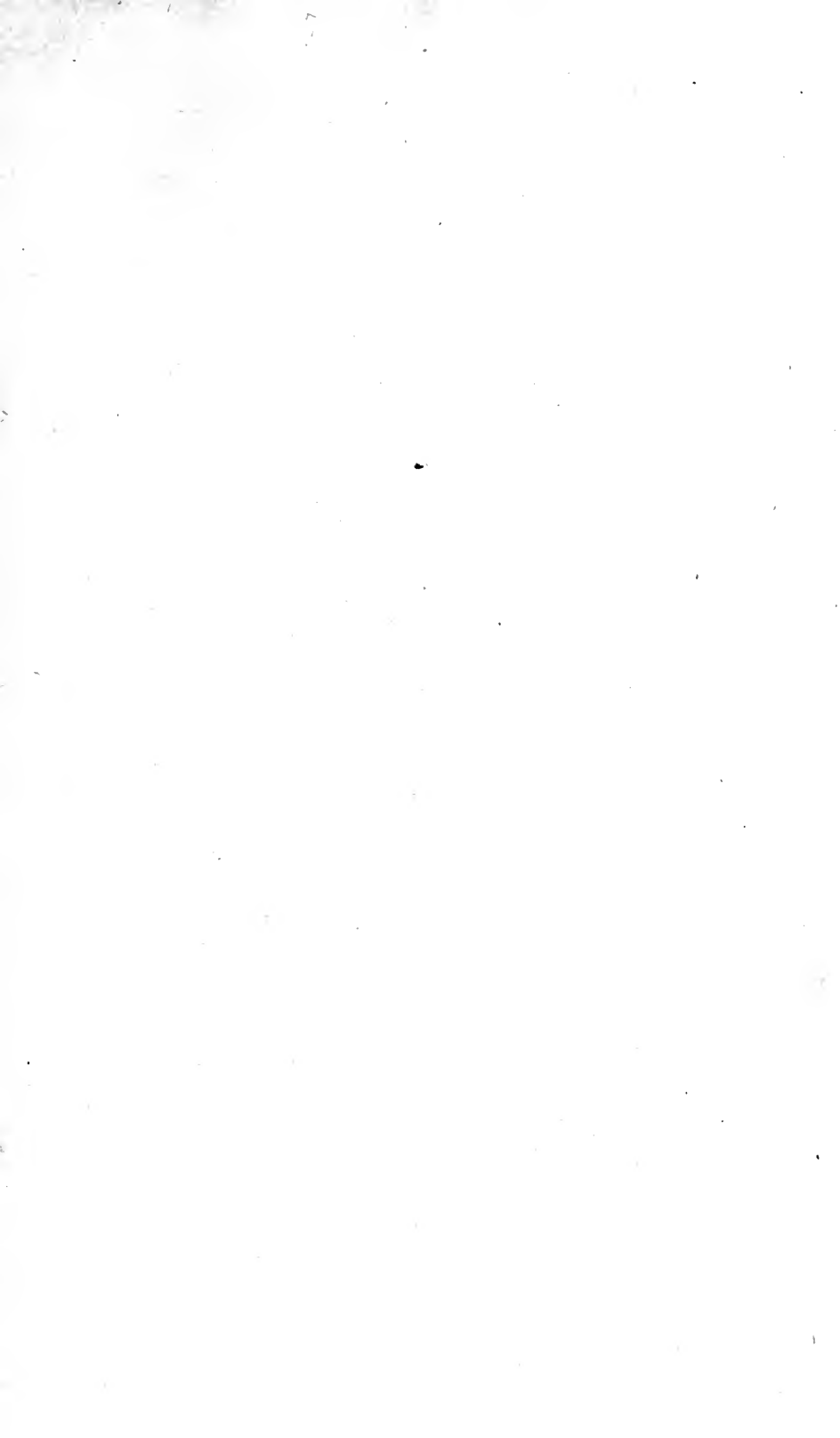
<i>Grade.</i>	<i>3d</i>	<i>4th</i>	<i>5th</i>	<i>6th</i>	<i>7th</i>
Standard .....	58	79	88	94	98
Morris .....	60	85	94	93	99
Third Avenue .....	80	89	98	96	99
Oak Street .....	65	84	87	93	99
Maplewood .....	51	83	93	..	..
Jefferson .....	84	..	..	..	..
Franklin .....	64	85	90	..	..
Sumner (Colored) .....	70	85	91	95	98
Lincoln (Colored) .....	53	62	78	95	93











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