

The Stillwater Public
School System
A Survey

By

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EXPRESSION OF APPRECIATION

I wish to take this means of expressing my appreciation of the courteous and helpful assistance which was received at the hands of Superintendent Dunlavy, the principals, the teachers, and the Board of Education. Without this cooperation much of the work accomplished would have been impossible.

THE VALUE OF TESTS *

Before an engineer constructs a rail road bridge or trestle, he studies the material to be used, and learns by means of tests exactly the amount of strain per unit of size his materials will be able to withstand. He does not work empirically, and count upon patching up the mistakes which may later appear under the stress of actual use. The educational engineer should emulate this example. Tests and forethought must take the place of failure and patchwork. It is time to leave off guessing and to acquire a scientific knowledge of the material with which we have to deal. When instruction must be repeated, it means that the school, as well as the pupil, has failed.

"Every child who fails in his school work or is in danger of failing should be given a mental examination. It is nec-

* This topic is based wholly on, on ch. I; Measurements and Tests by Terman; Houghton Mifflin Co. Curtis Tests- pp. I4, I5; Dept. of Cooperative Research, Detroit, Mich.

essary to determine whether a given child is unsuccessful in school because of poor native ability, or because of poor instruction, lack of interest, or some other removable cause. Without scientific diagnosis and classification of these children the educational work of the special class must blunder along in the dark.

" These tests when given show that there are about two per cent of the children enrolled have a grade of intelligence which, however long they live, will never develop beyond the level which is normal to the average child of eleven or twelve years.

" It is safe to predict that in the near future that an enormous amount of crime, pauperism, and industrial inefficiency will be eliminated by means of these tests. Such tests have demonstrated, beyond any possibility of doubt, that the most important trait of at least twenty-five percent of our criminals is mental weakness.

" It is estimated that the Hill Folk of Massachusetts has cost the state \$500,000.

" The Nam Family has already cost the state nearly \$1,000,000.

" The economic damage inflicted upon the state of New York by the Jukes in seventy-five years was estimated at more than \$1,300,000, to say nothing of disease and other evil influences which they helped to spread. Morality can not flower and fruit if intelligence remains infantile.

"The tremendous cost of vice and crime in the United States amounts to not less than \$500,000,000 per year, which is one million more than we spend for education.

"These tests show that children of superior ability are very likely to be misunderstood in school. Professor Terman, of Leland Stanford Jr. says that he has tested more than one-hundred children who were as much above the average as the moron defective are below. The large majority of these were found located below the school grade warranted by their intellectual level. One third has failed to reap any advantage whatever, in terms of promotion, from their very superior intelligence. Even genius languishes when kept over-long at tasks that are too easy. Teachers should be better trained in detecting the signs of superior ability. Every child who consistently gets high marks in his school work with apparent ease should be given a mental examination, and if found to be above the average should be placed in a special class.

" All classes of intellects, the weakest as well as the strongest, will profit by the application of their talents to tasks which are consonant with their ability. When we have learned the lessons which intellectual tests have to teach, we shall no longer blame mentally defective workmen for their industrial inefficiency, punish weak minded children because of their inability to learn, or imprison and

hang mentally defective criminals because they lacked the intelligence to appreciate the ordinary codes of social conduct.

"The superior child is likely to be a year or two younger than the average child of his grade, and is accordingly judged by a standard that is too high."

The current movement for measuring school products is one of the three or four most important fields of investigation in the scientific study of educational problems. Very material progress has been made during the last five or six years in the endeavor to devise accurate methods of measuring the actual achievements of pupils in school studies, so that we now have fairly accurate tests and scales for measuring attainment in most of the elementary schools studies and in several high school subjects.

There are those who say that the real results of education are too subtle and too evasive to be measurable by any sort of quantitative tests. Perhaps the only reply to offer is that we are making such measurements all the time by the millions of school marks assigned every year. What we need perhaps more than anything else in teaching and in the administration of public schools is scientific method and caution in handling the problems confronted.



"No amount of training will develop capacity; it is the great conditioning factor in school training, and education can be made efficient only as it first determines the inherent capacities of the individual child and then adjusts its training accordingly." *

Differences-in-capacity.

"In the past educational authorities have paid too little attention to the differences between capacity, ability, and performance. Capacity has been almost wholly ignored. A little consideration will show, however, that capacity should be the basis of all educational thinking and planning. For only as the training the school offers ministers adequately to the inborn capacities of children will it fulfill its most vital function of developing and organizing the personalities of individuals. The school has no control over the capacities of the children brought to it; these have been fixed by heredity. The school's teaching, is therefore, absolutely conditioned by capacity. The child that inherits a great capacity for addition will learn to add readily and will attain very high levels of skill under very moderate training; the child born color blind will fail to profit by the most extended training in any art which involves the recognition of color, just as the child born deaf will waste time in attempting any work which demands accurate tone discrimination." *

* Curtis Standars Research Tests, pp. 14, 15.

Sir Francis Galton, the first man to apply scientific methods to the study of human nature-- recognized as early as 1875 that when inborn capacity is ignored in education, nature and not nurture is the determining factor in the product. When the distinctions between capacity, ability, and performance are universally recognized, the corresponding change in school work will inevitably follow.

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Statistics collected in hundreds of cities in the United States show that between one third and one half of the school children fail to progress through the grades at the expected rate; that from ten to fifteen per cent are retarded two years or more; and that from five to eight per cent are retarded at least three years. More than ten per cent of the \$ 400, 000, 000 annually expended in the United States for school instruction is devoted to reteaching children what they have already been taught but failed to learn.

It has been assumed that under the right conditions all children would be equally, or almost equally, capable of making satisfactory school progress. Psychological studies of school children by means of standardized tests have shown that this supposition is not in accord with facts. It has been found that children do not fall into two well-defined groups, the "feeble-minded", and the "Normal". Instead there are many grades of intelligence, ranging from idiocy on the one hand to genius on the other. Vast individual differences have been found to exist which affect profoundly the capacity to profit from school instruction.

* The Measurements of Intelligence by Terman, ch; I. p.3.
 2 Terman--p.4.

"A standard score represents a standard performance,* from which in turn a desired level of ability may be inferred, but the amount and character of the training required by the children to reach that level must vary from child to child in accordance with the variations in the capacity of the children. To be successful in testing, certain conditions must be controlled. Time is the first great factor in the environment that must be controlled; for it is common experience that every human activity takes place in time and that achievement, other things being equal, is directly proportional to time. The second great factor is the emotional attitude of the person being tested for again it is common experience that a person can change at will the amount of effort put forth in a given time. If the test appeals to the individual, performance will more closely approximate ability than under conditions where the test makes no appeal. For this reason we realize that it is essential that the tests themselves, the instructions, the method of conducting the test, and every phase of the testing work, should be kept as uniform as possible.

"One should guard against inferring what performance might be under some other conditions. For to double the time and increase the length of the tests would merely tend to increase the differences between the performance of the able and the less able. To abolish the time limit altogether would be an illegitimate change for every child not feeble-minded, could, if given time enough, eventually turn in a perfect paper. Thus, the Scores would seem equal, when really they had been obtained at very different time costs, and time is a very important element in all human affairs."

* Curtis Standard of Research, p. 17.

Suppose that we admit that the pupil is somewhat at a disadvantage in taking a test by being timed in the work. Then I would ask you to remember that this is exactly what we do to test in any of our school work. Any examination or test that is given the pupil is timed, because the teacher always gives enough work to employ the child's time during that particular period.

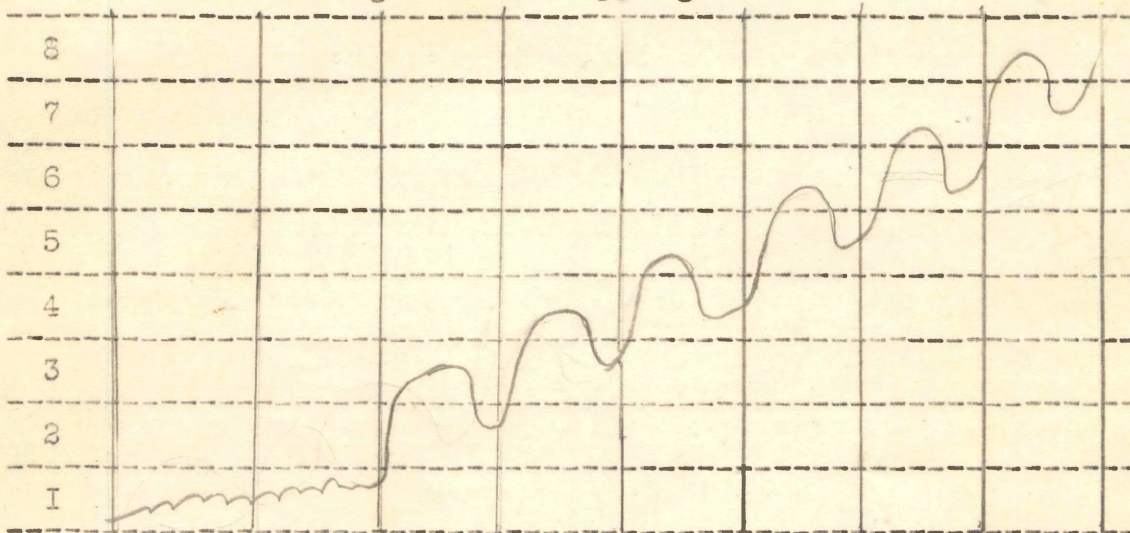
INDIVIDUAL DIFFERENCES AND THE OVERLAPPING OF GRADES.

One of the most important discoveries of the recent measurements of efficiency in school studies is the enormous range of differences in capacity shown by the pupils in the same class or grade. There is a feeling that when a pupil is promoted to the next higher grade his capacity is distinctly superior to the average ability of the pupils left behind, and that the pupils of any given grade, while not alike, are individually and collectively superior to the average or even to the better ones of the lower grade.

Therefore, it is surprising to find that the abilities shown by the pupils of any grade, with the possible exception of the first and second, are distributed over the entire scale.

For example, there are pupils in the fourth and fifth grades whose attainment in that particular subject is higher than that of the average eighth grade pupil. Also, there are pupils in these grades whose attainment is inferior to that of the average first grade pupil.

Illustrating the Overlapping of Grades.



In an investigation^{*} made in a number of schools it was found that 31.8 % of the pupils of any grade reached or exceeded the median of the next grade above, 20.1 % reached or exceeded the median of the second grade above, and 13.2% reached or exceeded ~~the~~ the median of the third grade above, and 3.3% reached or exceeded the median of the fourth grade above.

In other words, it was found that one-third of the pupils of any given grade could do the reading work of the next grade above as well as the average of that grade, one-fifth could do the work of the second above it as well as the average of that grade, and one-eighth could do the work of the third grade

* Educational Measurements by Starch; MacMillan, Co; 1917.

above it as well as the overage of that grade. Likewise, corresponding percentages of pupils in any given grade are no more efficient than the pupils one, two, or three grades below it.

RANGE OF VARIATION IN GRADING.

An investigation was made to determine the range of variation and the reliability of the grades assigned by different *teachers* to the same papers. A set of twenty one papers selected from a list of papers without any names appearing on the papers, in an arithmetic test given the eighth grade class were graded by a number of instructors in mathamatices. Three papers were selected from the list of answers returned and the results are tabulated below.

The most startling fact brought out by the investigation is the tremendously wide range of variation. It may be shocking to some to find that in most any school system the range of variation in grading of the same papers may be as large as thirty or thirty five per cent.

If we are attempting to evaluate a paper by a scale of 70, 71, 72, 73, 74, 75, etc; we are attempting to make finer distinctions than we are capable of. The mind does not discriminate with any degree of certainty between a paper of 74 and one of 75. The situation is analogous to estimating the length of a pole in inches instead of feet.

TABULATION OF RESULTS OF ARITHMETIC GRADING.

Paper Number 1.				Paper Number 2.			
NO.				NO.			
I	$12\frac{1}{2}$	$12\frac{1}{2}$	3	I	$12\frac{1}{2}$	$11\frac{1}{2}$	$12\frac{1}{2}$
2	0	$12\frac{1}{2}$	$6\frac{1}{4}$	2	0	0	0
3	6	12	4	3	0	0	0
4	8	3	0	4	0	0	0
5	$12\frac{1}{2}$	10	3	5	0	12	$6\frac{1}{4}$
6	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$	6	5	10	9
7	0	0	0	7	0	0	0
8	0	0	0	8	0	10	0
Total	52%	$62\frac{1}{2}\%$	29%	Total	18%	$43\frac{1}{2}\%$	28%

Paper Number 3.				Paper Number 4.			
No.				No.			
I	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$	I	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$
2	0	3	3	2	0	0	$6\frac{1}{4}$
3	10	12	9	3	0	0	3
4	10	10	$6\frac{1}{4}$	4	0	0	0
5	$12\frac{1}{2}$	10	$12\frac{1}{2}$	5	10	10	$6\frac{1}{4}$
6	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$	6	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$
7	10	10	$6\frac{1}{4}$	7	0	10	0
8	$12\frac{1}{2}$	10	$12\frac{1}{2}$	8	0	10	0
Total	80%	80%	75%	Total	35%	35%	$41\frac{1}{4}\%$

This test was given to the eighth grade class and then the papers were graded by instructors in the college whose teaching is wholly or partly along the line of mathematics.

NO.	Paper Number 5.			NO.	Paper Number 6.		
1	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$	1	$12\frac{1}{2}$	$11\frac{1}{2}$	0
2	$12\frac{1}{2}$	0	4	2	0	0	0
3	0	0	4	3	0	0	$12\frac{1}{2}$
4	4	1	2	4	0	0	0
5	10	12	0	5	0	0	0
6	6	10	$6\frac{1}{4}$	6	0	0	0
7	0	0	0	7	0	0	0
8	0	0	0	8	0	0	0
Total	45%	$35\frac{1}{2}$	29%		$12\frac{1}{2}\%$	$11\frac{1}{2}\%$	$12\frac{1}{2}\%$

No.	Paper Number 7.			NO.	Paper Number 8.		
1	$12\frac{1}{2}$	10	$12\frac{1}{2}$	1	$12\frac{1}{2}$	$11\frac{1}{2}$	$12\frac{1}{2}$
2	0	0	0	2	0	0	0
3	0	0	0	3	$12\frac{1}{2}$	12	10
4	0	0	0	4	10	10	$12\frac{1}{2}$
5	10	10	10	5	8	12	$6\frac{1}{4}$
6	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$	6	$12\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$
7	0	0	0	7	0	0	0
8	0	0	0	8	0	0	0
Total	35%	$32\frac{1}{2}\%$	35%	Total	56%	48%	54%

TOTAL GRADES FOR PAPERS 9 to 21 INCLUSIVE.

No. 9	23%	32½%	30%
" 10	35%	41½%	23%
" 11	59%	49½%	47%
" 12	54%	56%	56%
" 13	29%	29½%	29%
" 14	44%	36%	46%
" 15	35%	22½%	37%
" 16	31%	31%	40%
" 17	17%	10%	17%
" 18	17%	13½%	18%
" 19	38%	58%	60%
" 20	25%	13½%	33%
" 21	29%	49½%	40%

It will be observed by looking at example two in paper number one that one instructor gave a zero grade, another one gave full, (12½), and the third gave a grade of 6¼. Also, it will be observed that the total grades vary as much as 32½% for paper number one.

" All is not gold that glitters", could easily be paraphrased to apply to the results of examinations.

METHODS OF MEASURING SCHOOL ACHIEVEMENTS

The surest means of evaluating any element of the work of a school system is by measuring the results secured. Therefore, we have sought to measure the achievements of the children of the Stillwater schools in spelling, reading, writing, and the fundamental operations in arithmetic, as a means of verifying and supplementing our observations of the subject matter and methods of instruction followed in the schools.

By using standardized tests and scales of these measurements it was possible to make comparisons of the achievements of the pupils in Stillwater with those in other cities. It was possible, also, to determine the amount of progress being made from grade to grade, and the range of ability represented by the members of a given class.

Careful students of education are beginning to appreciate the inadequacy of the method of examination of pupils which has been common in the past. With the development of scales and units of measurements which enable us more accurately to evaluate the achievements of pupils, the work of the supervisory officer has increased in significance.

When such careful measurements of the results of instruction are made, and when teachers have been trained to appreciate the validity of such measures, it is relatively simple for the supervisory officer to point out with precision the strength or weakness of a particular teacher. Where the right attitude exists between teachers and supervisors, this careful analysis of the results of

the teachers' work quite commonly perhaps would result in a change of emphasis, or a redistribution of time or effort upon the part of the teacher. However, we have made no attempt to locate personal responsibility for educational deficiencies in this report.

As stated elsewhere, 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 has permeated the Stillwater Schools is manifested in the following improvements:

- 1- Manual Training and Domestic Science have been added to the program of studies in both the elementary school and the High School.
- 2- A supervisor of music and drawing has been added.
- 3- A system of records has been introduced.
- 4- A splendid showing has been made by the parent-teacher association.
- 5- Departmental instruction has been introduced in the upper grades.
- 6- A beginning has been made in acquiring playground apparatus and more attention is being given to playground supervision.
- 7- A showing has been made in the teaching of thrift and home-gardening.



"A ship sailing from New York to Australia can not arrive in one day, nor in one week; but because it can not arrive suddenly is no reason why it should not set out." *

Some may offer objections upon reading this report and say that things have been suggested for the improvement of the school system in the future that are impossible to carry out. Too many times school systems have had a reasonable growth, not because the school officials planned well for the future, but it grew inspite of this fact. Well planned cities have been more successful in their building career than those that were not planned with any consideration of the future. And so it is with educational progress along most lines. The journey ahead of our profession is a long one. The various ends in view can usually be attained only after many years of continuous labors toward those ends. The progress of the future can be accomplished only as it keeps the more distant ends in view.

When a ship sailing from New York to Australia does not reach its port in a week this can not be imputed to the ship as a short coming or a failure. The Stillwater Schools have traveled thus far on their journey and the school officials can drop from view most of the things behind; but they must keep in mind very fully that portion of the journey that is yet ahead of them.

* San Antonio Survey; p. 3.

The purpose of a school survey 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.

If Stillwater continues to grow at the usual rate of growth it will only be a matter of a few years until there will be a need for more building room. Infact there is need of ground for a High School building at the present time and a suitable location for this building will cost much more than it would have cost a few years ago. Because we can not reach the expectancy of the future at once is no reason why we should not travel in that direction. However, I shall have more to say on this particular subject later in this report. 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.

SPELLING..

The spelling tests:- It is not easy to determine just what words ought to be taught to children. One thing is certain: ^{*}The list of words should be limited, as far as possible, to those words which the children will be called upon to use in their written language. In line with this notion, we used as a test in spelling, twenty words for each grade, from the second to the eighth inclusive, chosen from a list of one thousand words most commonly used in English writing. All of the words were within the common understanding of the children, and familiar enough, to appear in the written work of pupils of the respective ages. The lists of words used were derived by Dr. Leonard P. Ayres, of the Russel Sage Foundation. The method by which the 20 words for each grade were selected from the long list were as follows: Under the direction of Dr. Ayres the long list of words were given throughout the grades of twenty-two city school systems. Naturally, certain words were found which approximately 70 per cent of the children of a given grade were able to spell correctly. For example, the word "horse" was spelled by 70 per cent of the children, and missed by 30 per cent. Dr. Ayres selected a list of such words for each grade. Thus the average rating on each word which appears in the lists below, was 70 per cent for the twenty-two cities, as judged by the twenty words finally selected, was 70. The standing of any school system in spelling may fair-

ly be judged, in comparison with those twenty-two cities, by

* School Survey, Butte, Montana. p. 69.

how much its several grades stand above or below 70 on the average.

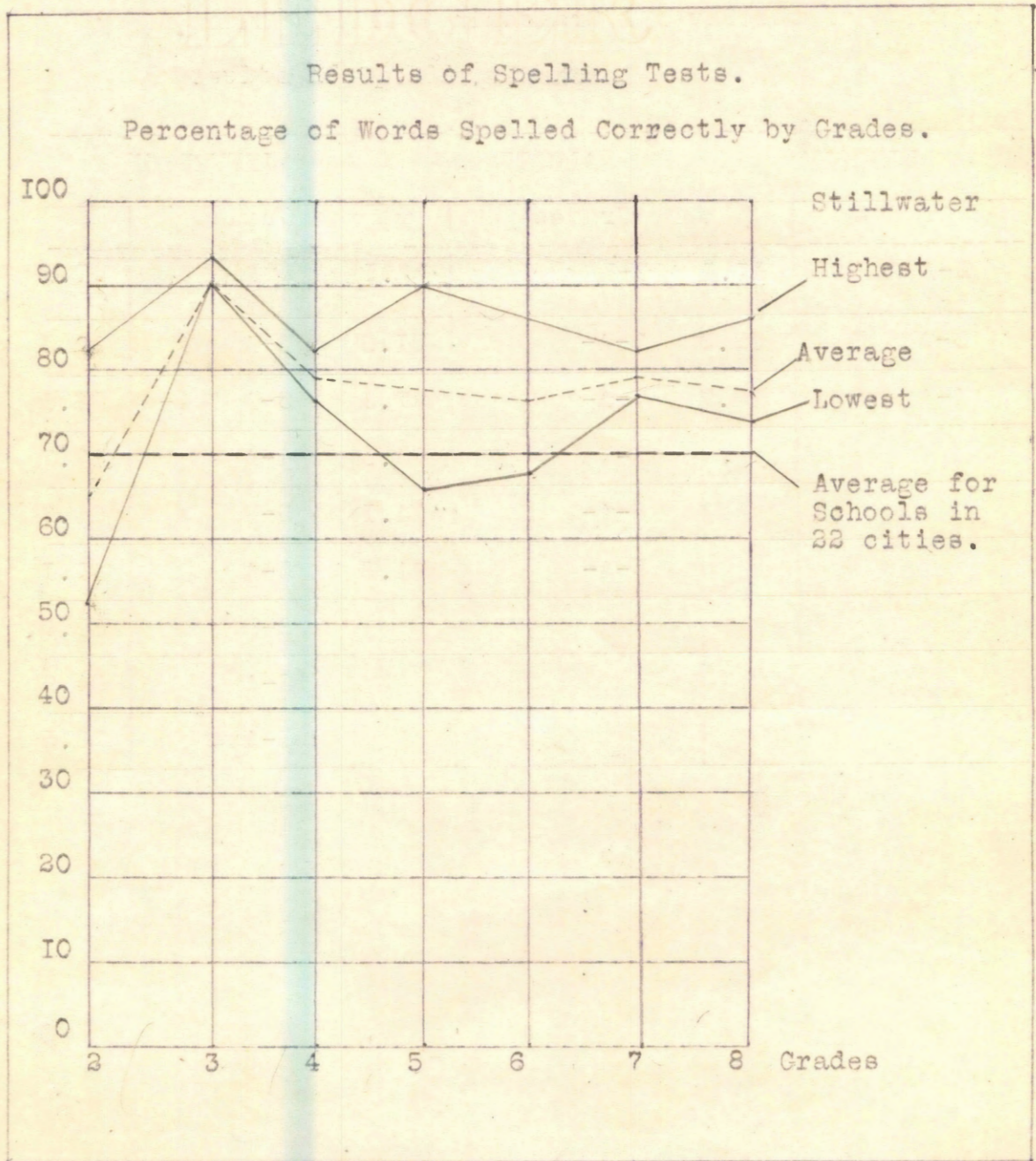
The word lists used:- The following words, selected as indicated above, were pronounced by the respective teachers to all the classes in each of the grades.

Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
by	seven	trust	eight	sometimes
have	forget	extra	afraid	declare
are	happy	dress	uncle	engage
had	noon	beside	rather	final
over	think	teach	comfort	terrible
must	sister	happen	elect	surprise
make	cast	begun	aboard	period
school	card	collect	jail	addition
street	south	file	shed	employ
say	deep	provide	retire	property
come	inside	sight	refuse	select
hand	blue	stood	district	connection
ring	post	fix	restrain	firm
live	town	born	royal	region
kill	stay	goes	objection	convict
late	grand	hold	pleasure	private
let	outside	drill	navy	command
big	dark	army	fourth	debate
mother	band	pretty	population	crowd
three	game	stole	proper	factory

Seventh Grade		Eighth Grade	
often	assist	meant	foreign
stopped	difference	earliest	expense
motion	examination	whether	responsible
theater	particular	distinguish	beginning
improvement	affair	consideration	application
century	course	colonies	difficulty
total	neither	assure	scene
mention	local	relief	finally
arrive	marriage	occupy	develop
supply	further	probably	circumstance

Standings of the Several Grades in Spelling Arranged by
Schools.

LINCOLN		ALCOTT		JEFFERSON	
Grades	%	Grades	%	Grades	%
2-A & B	81.1	7-B	77.1	2-A	51.5
3-A & B	92.2	7-A-	81.5	3-A	90.3
4-A & B	76.7	7-A-	77.3	3-A & 4-B	86.3
		8-B	73.3	4-A	77.7
		8-A-	84.1	5-B	64.7
		8-A-	74.6	5-A	90.1
				6-B	65.9
				6-A	84.9
				6-A	78.5



This represents the range from the poorest to the best room tested in each grade in spelling. For example, the poorest second-grade room averaged 51.5, while the best second-grade room averaged 81.1. The average for the whole city is represented by the dotted line, while the average for 22 cities is represented by the heavy line at 70.

*

HOW WELL DOES ONE NEED TO SPELL?

One spells in the normal course of adult life only when he writes. Naturally he needs to spell only the words that he will use in his writing; especially that which is intended for the eyes of other people. The list of words used in the average personal and business letters is not large. Dr. Ayres* thinks that a number between 2,000 and 3,000, most of which are the easy words of every day life which people do not seriously misspell. Perhaps if only the words from a common list that are actually missed by children were taught, and if only the pupils were taught who actually missed the words, then the spelling labors of our elementary schools might well be cut down to much less time than is now given.

1

Dr. J.F. Bobbitt, of the school of education, of the university of Chicago says: "When the public schools are accused of not teaching people to spell well enough, the thing usually meant is that these relatively small vocational classes are not taught well enough. In the attempt to bring the total mass of the population all to the same level, the result is general mediocrity everywhere, and a failure to reach that high ability which is actually needed by certain clerical vocations."

"One's fundamental understanding of how words are spelled is mainly developed through frequent seeing of those words in one's reading. When one reads in the full way that seems desirable in a well-developed system of education, the mental picture of most words is so indelibly fastened in one's mind

* Butte Survey- p. 69. i San Antonio Survey- pp. 7, 8.

that in one's writing one will easily and naturally without particular thought give to most words the correct spelling form. There are large numbers of individuals who need very little spelling training beyond this,- after the primary grades are passed. One learns the spelling of words by: (a) much reading; (b) watchfulness over one's spelling as one writes his letters, reports, composition, etc.; (c) the habit of going to the dictionary or to their word-list whenever there is any doubt in their minds as to the spelling of any word which they are using in their writing; (d) the systematic supplemental study by the pupils of all the words which they miss; (e) phonic training in the primary grades; (f) word study. Bad spelling is generally because one is not watchful, and has not the habit of being sure of every word as he puts it down and of looking up every doubtful one".

From the Oklahoma state spelling book for the grades, ten words selected at random from a list of words taken from the speller, were selected, and the ten words were dictated to ten prominent and successful business and professional men of Stillwater with the following results:

	Missed	Never heard of
1. kaleidoscope	10	7
2. delicatessen	10	9
3. chinquapin	10	6
4. tonneau	9	7
5. debeige	10	10
6. suzerain ty	9	7
7. kinetoscope	10	8
8. dephlegmator	10	10
9. sarcenet	9	9
10. pellagra	9	0

Those who participated in this test represented the following businesses.



"I never heard of it before."

1. a lawyer
2. a government employee
3. a bank president
4. a physician
5. a newspaper editor
6. a drygoods merchant
7. a hardware merchant
8. an insurance man
9. a furniture dealer
10. a government employee

Summary

In recent years much has been done by teachers in eliminating useless subject matter from our textbooks. History is being rewritten and taught in a newer and larger conception. Arithmetic is becoming less abstract and more applicable to life. Everywhere we hear: "Teach the child that which he can use best in securing an honest living". The adopted text in spelling seems to have fewer words, such as those above than the usual text, but no doubt it would be better for the average pupil to spend the time on the more common words.

If the leaders in our trade, business and professional life have no use for such words, why teach them to our boys and girls?

Had men in the so called laboring class been selected for the test, into which class most of the boys and girls will find themselves in the future years, the results would have been still more striking.

As a whole the Stillwater Schools did well in spelling. However, there is too much difference in the ability of rooms in the same grade. By studying the graph we notice a wide range between the poorest and the best room tested, but the average is far above that of other cities except in the second grade.

TESTS IN ARITHMETIC

As a measure of the achievements of the children in arithmetic, the Studebaker tests were used. These tests are so devised that by giving the next lower grade one and a half minutes more time than they can do as many correctly as the grade above. In each example of a given sort there are an equal number of combinations called for, and these include similar assortments of difficult and easy combinations. It is just as much of an achievement to work one as it is to work any other one. The child who has worked eight has achieved exactly twice as much as the child who has worked four. Therefore, we can see that if the same time be given to the several pupils in the same grade, the number of examples completed in the fundamentals furnish a fair basis of comparison between the achievement of one child with that of another, or one class with that of another. It is not claimed that these tests cover all that teachers are expected to teach in arithmetic, but it is claimed that successful teaching in arithmetic can not be done without developing skill in the fundamental operations.

The Median Score made by Children in Stillwater, as compared with other Cities.

Multiplication	Grades	4	5	6	7	8
Stillwater		2.6	2.9	5.3	6.5	6.1
Other Cities		--	2.6	4.5	5.2	6.4

The distribution of the number of examples correctly finished in the given time by the pupils in the several grades.

Division.	Number finished					Number finished					Multipli-
0	II	3			I		2		I	5	0
I	5	I	2	I	I	2	2	I	5	8	I
2	7	4	2	2		2	2	3	6	3	2
3	I	3	4		I	2	2	4	10	6	3
4	6	4	2			5	3	4	3	4	4
5	2	4	3	5	I	6	5	5	2	2	5
6	I	3	2	7		12	10	8	3	4	6
7	I	I	2	2	4	8	12	16	5	4	7
8	2	I	2	2	3	13	10	11	4	2	8
9	I	3	4	I	3	6	5	7	I		9
10			2	4	I	4	7	I		2	10
11		2	7	5	I						11
12		I	4	6	4						12
13		2	5	6	4						13
14		2	4	4	6						14
15		I	4	3	5						15
16			5	4	2						16
17	3	I	3	I	5						17
18	I		2	2	5						18
19		2		2	5						19
20			I	I	I						20
21		I		I	I						21
22		I			3						22
23											23
24					3						24

Continued.

Division						Multiplication					
Grades						Grades					
4	5	6	7	8		8	7	6	5	4	
25											25
26											26
27											27
28											28
Median											Median
3.9	5.1	8.2	11.1	13		6.1	6.5	5.3	2.9		2.6

Addition							Division		
73	34	75	53	88	99	97	8)2416	2)1506	7)9156
24	19	45	40	95	75	96			
02	72	59	32	22	31	13	5)1100	6)6024	3)5592
<u>69</u>	<u>54</u>	<u>16</u>	<u>67</u>	<u>91</u>	<u>23</u>	<u>89</u>	9)1647	9)4095	7)3563
67	78	74	65	33	24	24			
98	98	49	79	38	26	77	4)3940	8)4768	5)1915
23	03	56	56	10	30	28			
<u>48</u>	<u>27</u>	<u>66</u>	<u>60</u>	<u>94</u>	<u>72</u>	<u>34</u>	3)2904	6)1794	7)5187
24	37	52	42	42	43	35	7)3472	9)3465	4)3184
94	97	55	84	58	75	48			
32	34	71	14	12	27	39	9)6651	3)1716	8)5584
<u>57</u>	<u>17</u>	<u>56</u>	<u>69</u>	<u>47</u>	<u>15</u>	<u>20</u>	4)9456	8)1176	5)3320
63	53	22	41	35	33	89			
86	67	63	69	46	97	10	7)1981	9)2664	
24	13	31	12	85	12	29			
<u>57</u>	<u>34</u>	<u>66</u>	<u>88</u>	<u>77</u>	<u>53</u>	<u>52</u>	6)6498	2)1916	

The distribution of the number of examples correctly finished in the given time by the pupils in the several grades.

Addition						Subtraction					
Number of Ex. finished						Number of Ex. finished					
Grades	4	5	6	7	8	8	7	6	5	4	Grades
0	I					I				2	0
I								I			I
2							I		I	I	2
3	I		I				I		I		3
4				I		I				I	4
5	I		I	2	I		I	I		2	5
6	2			2	I	I	I			I	6
7		2	I	2	2	I	2	2		2	7
8		2		I	2	I	I	3		I	8
9			2	2			3	I	3	2	9
10	I	I	I	2	3	2	3	I	I	3	10
11	I	4		3	6		3	6	7	I	11
12	I	2	4	6	2	3	2	I	2	I	12
13	4	5	4	3		2	3	5	2	4	13
14	I	2	7	5	I	3	7	4	2	2	14
15	5	2	6	5	3	I	6	5	2	3	15
16	3	2	5	6	4	3	2	5	3	3	16
17	I	3	3	6	2	5		4	3	2	17
18	4	4	8	5	8	2	2	4			18
19	I	2	I	6	I	I	4	2	2		19
20	2	2	4		I		2	3	I	I	20
21	2		3	3	5	I	I	I	I	I	21
22	2	I	I	I	3	6	4	2	2		22

Continued

Addition						Subtraction					
No. of Examples finished						No. of Examples finished					
Grades	4	5	6	7	8	8	7	6	5	4	Grades
23	2	I	2		2	2	I	3	I	I	23
24	I	3	2		4	2	3	4	I	2	24
25	I	I	2	2	I	2	4			2	25
26		I		I	I	9	I	I	I	I	26
27	I			I	I	6	I	2	3	I	27
28		I			I	5	2	2	2		28
Median	I5	I5	I5	I4	I7	20	I5	I8	I5	I3	Median

Subtraction

Multiplication

904	847	784	506
<u>357</u>	<u>692</u>	<u>375</u>	<u>284</u>
I324	532	I258	729
<u>618</u>	<u>I49</u>	<u>709</u>	<u>435</u>
I009	II75	I050	I9I5
<u>347</u>	<u>449</u>	<u>363</u>	<u>2I7</u>
I285	I729	I406	I244
<u>369</u>	<u>882</u>	<u>572</u>	<u>627</u>
I59I	I006	I480	I293
<u>632</u>	<u>467</u>	<u>9I6</u>	<u>9I7</u>
I462	I394	I236	I89I
<u>6I6</u>	<u>587</u>	<u>4I5</u>	<u>976</u>
I475	IOI7	I592	I09I
<u>794</u>	<u>294</u>	<u>728</u>	<u>468</u>

426	284
<u>45</u>	<u>78</u>
507	937
<u>94</u>	<u>53</u>
785	963
<u>I5</u>	<u>78</u>
8I2	627
<u>37</u>	<u>60</u>
496	798
<u>39</u>	<u>76</u>

Summary of Results

By studying the above tables we notice that there is not, as there should be, a fairly steady gain from grade to grade in the fundamentals. Some of the lower grades made a better showing than the grade above. At the same time, there are seen to be eleven pupils in the fourth grade, three in the fifth, and one in the eighth grade, who could not finish one example correctly in division in the allotted time. There were others who completed twice as many as the average members of the class. This holds true for every operation in the fundamentals. There were some who tried every problem but only finished correctly three and four examples. Others only tried about one half that number and had all correct. The first people had the rapidity but were not accurate in their work. Those in the second class were accurate but were not rapid enough in their work. By means of these tests the teacher can find out just what the various pupils are lacking in and then drill them on that particular phase of the work. Those who tried all the examples would not need to drill on rapidity but could train for accuracy, while those who finished correctly all they tried would not need to spend time on accuracy but would need to develop speed.

FED OUT OF THE SAME SPOON.

This often results in a great waste of time during arithmetic periods when a large per cent of the class wait



In school 60% right is accepted, but in business it is not.

for the slow ones to complete the example before new work is assigned. Perhaps there is less excuse for giving uniform instruction in arithmetic than in most of the other subjects. When some children now in the fifth grade far surpass already the average ability of eighth-grade pupils, it is surely a waste of their time to be doing the same arithmetic work which is best adapted to those members of the class who can complete no examples in the fundamental processes.

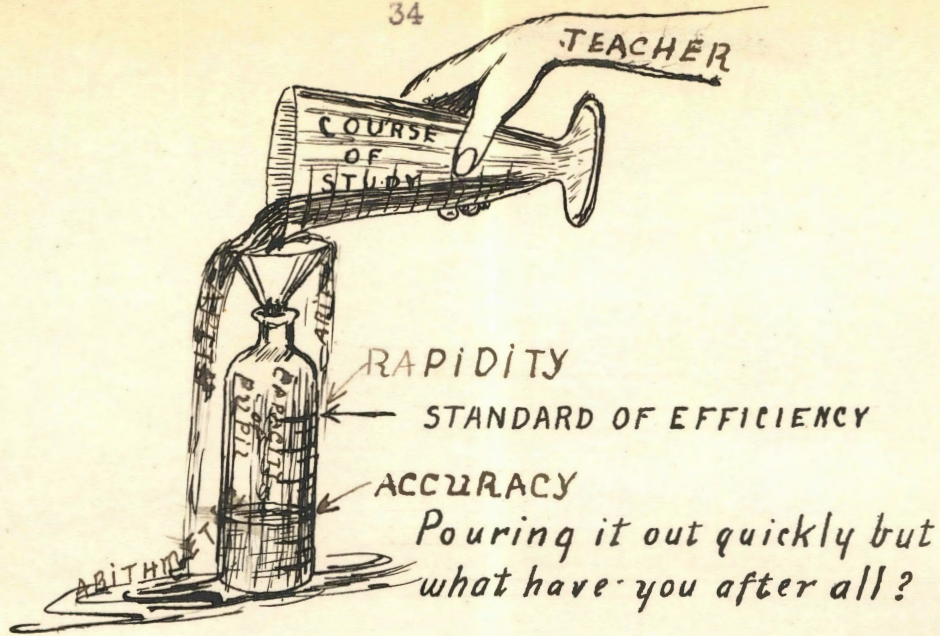
The school habit of accepting 60% or 70%* as "satisfactory" is ridiculed as tending to promulgate a sixty or seventy per cent civilization. Perhaps the teacher is justified in allowing some credit for correctness of method even when the result is wrong, but no school usage is more ridiculed by the business world. For the business man a wrong result is useless no matter how slowly or how quickly obtained.

* The Public and Its School by McAndrew; World Book Co.; p.9.

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The schools are doing a very large part of the preliminary work in very effective fashion; much rapid oral work with tables ; rapid practice with easy problems in all the fundamental operations; rapid oral reasoning problems using numbers of manageable size; etc. All of which is good. The classes, however, should be supplied with certain printed helps for the work, which they do not now have. For drill in speed and accuracy in the four fundamentals of arithmetic there should be at the disposal of the schools printed sheets containing a large number of examples.

Mr. J.W. Studebaker, assistant Superintendent of schools, of Des Moines has prepared a complete set for the whole year in the four fundamentals of arithmetic. These are printed on heavy paper and are so arranged, by means of holes being cut in the paper under each example, that they can be placed over a sheet of paper and answers written on the sheet without the examples having to be copied, which saves a great deal of time. The pupil is supposed to work on the same sheet from day to day until he can finish all the examples on the sheet in the required time. The answers are printed on the back of each sheet so that the pupil can turn the sheet over and correct hurriedly his own work. When he has mastered one sheet he is then given the next in order, and so on. The teacher has a large sheet for keeping the score of each pupil which tells how many days each pupil worked on each sheet, etc.



The advantages of having the examples ready printed with spaces for the solution are: (1) The teacher does not have to copy the examples on the black-board and thus her time is saved for needful work. (2) The time of the pupils is saved, since they do not have to copy the long list of examples. (3) With such an abundance of helps, less oral work is needed. This further saves the expensive time of the teacher. (4) All of the pupils can be actually working at one time, and not merely passively listening to what others are doing when the work is of the oral type.

The teacher should keep in mind that the pupil should have both speed and accuracy to meet the requirements of the business world. Great speed--but what have you when you get there. That is, it takes less time for that pupil to get a thing wrong than it does another pupil. The druggist who pours the medicine too quickly is bound to waste some of it. So we would suggest that both be kept in mind and that the one does not suffer from the effects of the other.

THE MEASUREMENT OF ABILITY IN READING.

From the practical point of view, we learn to read in order to obtain information. Obviously, then, the chief elements in reading are (1) the comprehension of the material read, (2) the speed of reading, and (3) the correctness of the pronunciation, or elocution. The first two are the most important so far as reading strictly is concerned, since we learn to read for our own individual uses. For this reason, such factors as intonation, expression, pauses and the like are relatively insignificant. We use silent rather than oral reading in practical life.

METHODS OF TESTING.

The speed of reading may be measured by determining the amount of a certain kind of text that can be read in a given period of time, for example, ~~for example~~ the number of words read per second, or minute. Comprehension perhaps can not be determined so easily. In the following tests the method adopted consists in reproducing the thought in writing immediately after the reading. This test was devised by Professor F.J.Kelly, Director of the Training School, Kansas State Normal School.

DIRECTION FOR GIVING THE TESTS.

After telling the children not to open the papers, ask the children on the front seats to distribute the papers placing one upon the desk of each pupil in the class. Have each child fill in the blank space at the top of the paper. Then make clear the following:

INSTRUCTIONS TO BE READ BY TEACHER AND PUPILS TOGETHER.

This little five-minute game is given to see how quickly pupils can read silently. To show what sort of game it is, let us read this:

:	Below are given the names of animals. Draw a	:
:	line around the name of each animal that is useful	:
:	on the farm:	:
:	cow tiger rat wolf	:

This exercise tells us to draw a line around the word cow. No other answer is right. Even if a line is drawn under the word cow, the exercise is wrong, and counts nothing. The game consists of a lot of just such exercises, so it is wise to study each exercise carefully enough to be sure that you know exactly what you are asked to do. The number of exercises which you can finish thus in five minutes will make your score, so do them as fast as you can, being sure to do them right. Stop at once when time is called. Do not open the papers until told, so that all may begin at the same time.

The director should then be sure that each pupil has a good pencil or pen. Note the minute and second by the watch and say, BEGIN.

ALLOW EXACTLY FIVE MINUTES.

Answer no questions of the pupils which arise from not understanding what to do with any given exercise.

When time is up say STOP and then collect the papers at once.

Tests for Grades 3, 4, and 5.

Value

No. 1

I have red, green, and yellow papers in my hand. If I place the red and green papers on the chair, which color do I still have in my hand?

No. 2

I.2

Think of the thickness of the peelings of apples and oranges. Put a line around the name of the fruit having the thinner peeling.

apples oranges

No. 3

I.2

Three words are given below. One of them has been left out of this sentence: I cannot --- the girl who has the flag. Draw a line around the word which is needed in the above sentence.

red see come

I.4

No. 4

There are seven boys and twelve girls in a room. If there are more boys than girls, write boys on the line below. If more girls than boys, write girls on the line below.

No. 5

I.4

If you would rather have a dollar than a little stone, do not put a line under dollar, but if you would rather have five dollars than a pencil, put a line under stone.

dollar stone

I.6

No. 6

The first letter in the alphabet is "a." Below are some words containing the letter "a." Draw a line under the one in which the first letter of the alphabet is found the greatest number of times.

hat easy baby age alas manfully

I.7

Value

No. 7

A child wrote these letters on the blackboard, b y a k. He then rubbed out one letter and put c in its place. He then had b y c k on the blackboard. What was the letter which he erased?

I.8

No. 8

Count the letters in each of the words written below. You will find that pumpkin has seven letters, and thanks has six letters. One of the words has five letters in it. If you can find the one having five letters, draw a line around it.

I.9

breeze thanks yours pumpkin duck

No. 9

Here are some names of things. Put a line around the name of the one which is most nearly round in every way like a ball.

2.0

saucer teacup orange pear arm

No. 10

A recipe calls for milk, sugar, cornstarch and eggs. I have milk, sugar and eggs. What must I get before I can use the recipe?—

2.1

No. 11

We planted three trees in a row. The first one was nine feet tall and the last one was three feet shorter than the first one. The middle one was two feet taller than the last one. How tall was the middle one?

2.2

No. 12

Below are three lines. If the middle line is the longest, put a cross after the last line. If the last line is the longest, put a cross after the first line. If the first line is the longest, put a circle in front of the middle line.

2.2

No. 13

Value

Three men have to walk to a town ten miles away. Each man carries a load. The first carries 25 pounds, the second 30 pounds and the third 40 pounds. The heavier the load, the slower the man travels. In order that they may arrive in town at the same time which man must start first?

No. 14

3.1

My house faces the street. If a boy passes my house going to school in the morning, walking toward the rising sun, with my house on his right hand, which direction does my house face?

No. 15

3.5

Fred has eight marbles. Mary said to him: "If you will give me four of your marbles, I will have three times as many as you will have." How many marbles do they both have together?

No. 16

4.8

If in the following words e comes right after a more times than e comes just after i, then put a line under each word containing an e and an i, but if e comes just before a more often than right after i, then put a line under each word containing an a and an e.

receive feather teacher believe

8.9

Stillwater compared with other Cities.

Grades	III	IV	V
Median Score--Other Cities	5.0	9.4	13.4
Median Score-- Stillwater	4.6	9.4	12.0
Median Score-- Cushing	1.4	6.8	13.7

The median score is the score on the middle paper in the pile of papers arranged according to size of scores. If there are 35 papers, the median score is the score on the 18th paper. If there are 36 papers the median score is half way between the score on the 18th paper and the score on the 19th paper.

Tests for Grades 6, 7, and 8

Value

No. 1

The air near the ceiling of a room is warm, while that on the floor is cold. Two boys are in the room, James on the floor and Harry on a box eight feet high. Which boy has the warmer place?

I.0

No. 2

If gray is darker than white and black is darker than gray, what color of those named in this sentence is lighter than gray?

I.3

No. 3

We can see through glass, so we call it transparent. We cannot see through iron, so we call it opaque. Is black ink opaque, or is it transparent?

I.6

No. 4

My shepherd dog can run faster than any of my father's large herd of cattle, but he will not chase a rabbit because he learned long ago that a rabbit could easily outrun him. If my dog is no slower than other shepherd dogs, draw a line under the fastest runner of the three animals named below.

2.0

rabbit shepherd dog cow

No. 5

If you find a word in this sentence which may be used to denote color, draw a line under it; but if you do not find such a word, draw a line under the first word of the sentence.

2.2

No. 6

In going to school James has to pass John's house, but does not pass Frank's. If Harry goes to school with James, whose house will Harry pass, John's or Frank's?

2.3

No. 7

A boy goes to school in the morning, goes home at noon for lunch, returns to school at 1 o'clock and returns home at 4 o'clock. How many times does he travel between home and school that day?

2.4

No. 8

Value

Here are two squares. Draw a line from the upper left-hand corner of the small square to the lower right-hand corner of the large square.

2.6

No. 9

A farmer puts one half the hay from his field into the first stack, then two thirds of what is left into a second stack and the remainder in a third stack. Which stack is the largest?

3.0

No. 10

Below are two squares and a circle. If the circle is the largest of the three, put a cross in it. If one square is smaller than the circle, put a cross in the large square. If both squares are smaller than the circle, put a cross in the small square.

3.9

No. 11

"The curfew tolls the knell of parting day,
The lowing herds wind slowly o'er the lea,
The ploughman homeward plods his weary way,
And leaves the world to darkness and to me."
(Gray)

Study the above quotation carefully. The author lets us know his feeling about the coming of night. If you think his feeling is one of fear and dread, underscore curfew. If his feeling is one of peace and gladness, underscore ploughman.

4.0

Value

No. 12

Read these carefully:

Bears are larger than bugs.
 Houses are larger than bears.
 Mountains are larger than houses.
 Then bugs are not as large as mountains.

I have tried to make no false statement among these four. If I have succeeded, underline the word success. If I have failed, underline the word failure.

4.0

No. 13

If a man takes an hour to walk around a square each side of which is a mile in length, how long will it take him to walk eight miles?

4.3

No. 14

A list of words is given below. One of them is needed to complete the thought in the following sentence: The roads became muddy when the snow-----

Do not put the missing word in the blank space left in the sentence, but put a cross below the word in the list which is next above the word needed in the sentence.

4.9 water
 is
 melted
 snow

No. 15

I am writing this paragraph to test your ability to read what I compose. Underscore any word in the paragraph which has the same number of letters as the third word from the beginning of the paragraph but which has none of the same letters.

5.8

No. 16

My mother's birthday and mine are on the same day. We always have a round birthday cake together. We put as many candles in a row around the cake as my mother is years old, but not all the candles are white ones. We use as many red ones as I am years old. This year we used ten red ones. We found that between each two red ones we had to place two white ones. How old is mother?

10.2

Stillwater compared with other Cities

Grades	VI	VII	VIII
Median Score -- Other Cities	13.8	16.5	19.2
Median Score -- Stillwater	13.7	16.4	22.6
Median Score -- Cushing	13.3	12.3	22.1

Tests for Grades 9, 10, 11 and 12.

No. 1.

Value

Mary is older than Nellie, and Nellie is older than Kate.
Which girl is older, Mary or Kate?

2.1

No. 2

My fingers were numb with cold from carrying my skates. My breath looked like steam before my face and froze into a thick frost on my muffler. My mother saw me coming and called, "Clean off your shoes and then come in and get warm." Which do you think I had on my shoes, mud or snow?

3.3

No. 3

I have five plums and Mary has four plums. Jane comes along and we see that she hasn't any. We want to divide with Jane in such a way that we shall all three have the same number. I give Jane two plums. How many must Mary give her?

3.5

No. 4

In the following words, find one letter which is contained in only three of them and then cross out the word which does not contain that letter.

ail thief live anvil

3.7

No. 5

Value

A, B, C and D on the lines below represent four places lying in a straight line. From A to B is 4 miles, from C to D is 7 miles, from A to D is 14 miles. How far is it from B to C?

3.8

A-----B-----C-----D

No. 6

Bone is composed of animal matter and mineral matter. The former gives it toughness and the latter rigidity. Yesterday I placed a bone from a chicken's leg in a bottle of acid, and found this morning that I could wrap the bone around my finger like gristle. Which kind of matter was removed from the bone?

4.3

No. 7

The pitch of a tone depends on the number of vibrations made by the vibrating body in a second of time. The greater the number of vibrations per second, the higher the tone. Two bodies are made to vibrate, the former 256 times a second, and the latter 384 times a second. Which produces the lower tone, the former or the latter?

4.4

No. 8

There are three horizontal lines; the first is three inches long, the second two inches, the third one inch. We know that if the second and third lines are joined end to end the resulting line will be as long as the first line. Suppose that the first and second lines are joined end to end. How many times as long as the third line will the resulting line be?

4.8

No. 9

It was a quiet, snowy day. The train was late. The ladies' waiting room was dark, smoky and close, and the dozen women, old and young, who sat waiting impatiently, all looked cross low spirited or stupid.

In this scene the women probably kept their wraps on, because they wished to be ready to take the train. Pretty soon the station agent came and put more coal in the stove, which was already redhot in spots. Do you think this made the women happier?

4.9

No. 10

Value

Below are three lines. If the first line is the shortest, place a dot above it. If the last line is shorter than the first but no longer than the middle line, put a cross above the longest. If each of the other lines is longer than the last line, put a cross above the shortest line.

No. 11

5.6

Four hundred fifty years ago the people of Western Europe were getting silks, perfumes, shawls, ivory, spices and jewels from Southeastern Asia, then called the Indies. But the Turks were conquering the countries across which the goods were carried, and it seemed likely that the trade would be stopped.

In the foregoing paragraph, what was the country called from which the people of Western Europe were getting the goods named in the paragraph?

No. 12

6.2

Mrs. White and I were talking. She said to me, "Nora, I learned the other day that I am five years older than your mother."

To this I answered, "Then, Mrs. White, you are just three times as old as I am."

Nora is twelve years old. How old is her mother?

No. 13

7.0

"Magnanimity in politics is not seldom the truest wisdom; and great empire and little minds go together."

(Burke)

Study Burke's quotation carefully. If he was in favor of territorial expansion as the goal of English politicians he was a standpatter. If he believed in the establishment of justice in human relations even at the sacrifice of territorial expansion, he was a progressive. Which was he, a standpatter or a progressive?

No. 14

7.9

Without making a line on paper at all, follow these instructions in your imagination. From the right-hand end of a line AB, draw a line BC at right angles to AB and half as long as AB. From the extremity of BC draw a line CD through the middle of AB, three times as long as BC. Join A and D. Do the lines in the figure inclose any surface of surfaces? If so, how many?

8.3

Value

No. 15

Suppose that I have a dry sponge which weighs a half pound, and a pan of water. The pan and the water weigh three and one half pounds. I soak the sponge in the pan of water and wring it out into a pint measure until the measure is full. The pint of water weighs a pound. I now put the sponge into the pan of water and weigh the pan and its contents. What will the weight be?

8.9

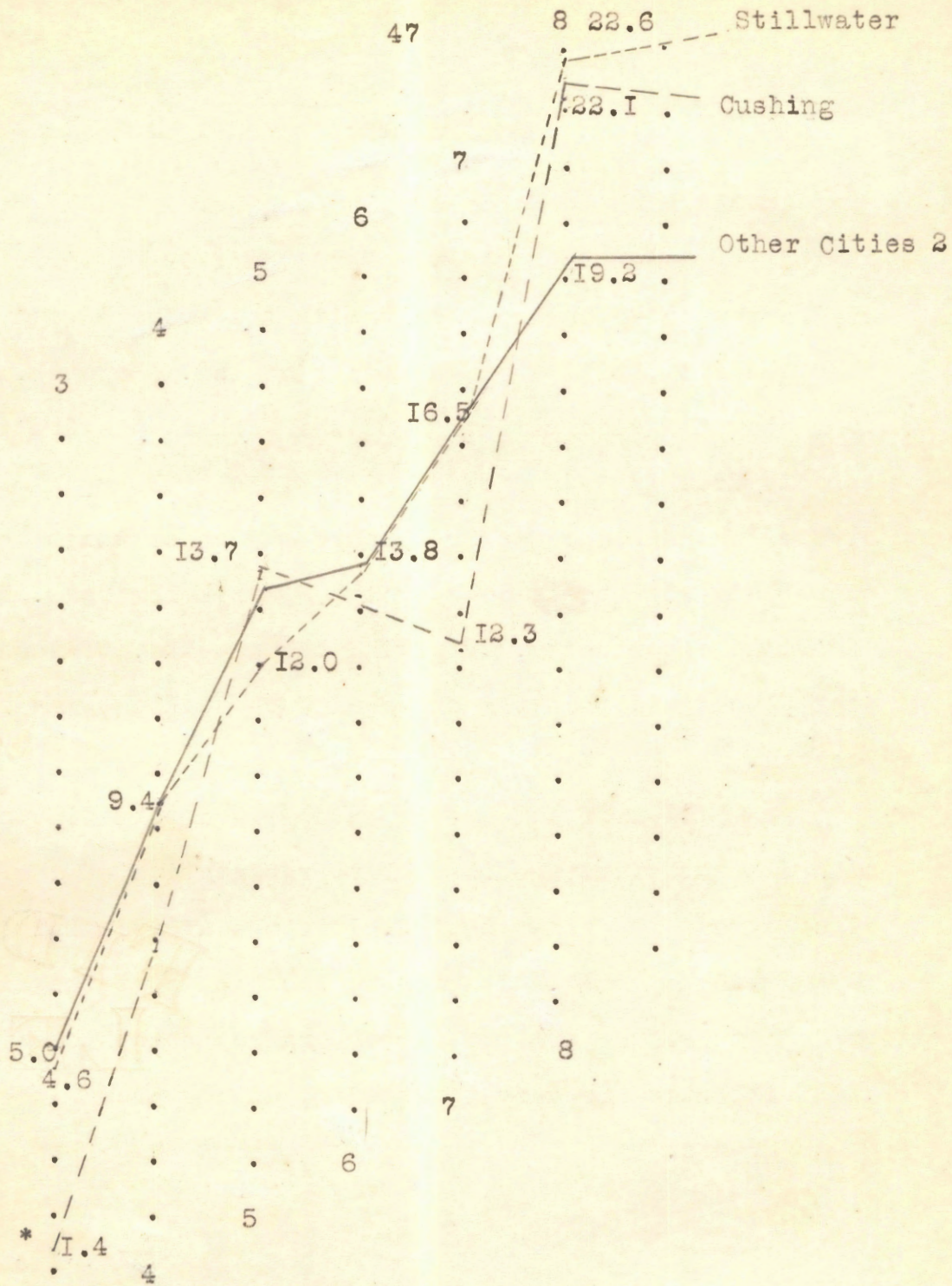
No. 16

At sea level water boils at 212 degrees above zero on the Fahrenheit thermometer, and at 100 degrees above zero on the Centigrade thermometer. The zero point on the Centigrade thermometer represents the same temperature as 32 degrees on the Fahrenheit thermometer. A change in temperature which would raise the mercury in a Centigrade thermometer 5 degrees would raise the mercury in a Fahrenheit thermometer how many degrees?

52.0

Stillwater compared with other Cities

Grades	IX	X	XI	XII
Median Score of other Cities	22.7	24.7	26.1	28.3
Median Score of Stillwater	25.1	21.3	24.7	26.5
Median Score of Cushing				



3 Average scores in silent reading of the pupils in the elementary grades.

* Only one room in each grade was tested in the Cushing schools.

2 Kansas Silent Reading Test--Class Record Sheet.

Summary

In the Cushing Schools only one room in each grade was tested so we see that this is hardly a fair comparison since we are comparing one room only with the average work for that grade in Stillwater and other cities. However, this does show the wide variation of the work in the Cushing schools from grade to grade. This is not always the fault of the teacher since other factors may enter which would cause poor work to be done by that particular room. It does afford an opportunity, by giving these tests, to locate the weak places and then the cause of such weakness may be located.

In Stillwater some rooms were more outstanding than others but the average is well representative of the work as compared with other cities. It shows a gradual increase from grade to grade. It will be observed that the fifth grade at Cushing and the eighth grades at both Cushing and Stillwater are very outstanding as compared with the other grades.



The garden teaches in terms of the child's life.

More impetus is being given to the home-garden work than ever before. This is due partly to the wave of enthusiasm that is sweeping the country, but principally due to the efforts of the parent-teacher association. According to the following table there are between two and three hundred pupils growing gardens. This is certainly a step in the right direction but much force will be lost by not having a supervisor to guide the pupils through the growing season after the close of school.

Oklahoma is and of necessity must always be primarily an agricultural state, notwithstanding her mineral wealth. The prosperity of the cities will always be dependent upon the prosperity of the agriculture of the region which they serve as distributing centers. It is highly desirable that the inhabitants of the city in an agricultural region should have some application and understanding of those labors and those conditions upon which they are ultimately dependent.

The school garden develops an interest in the fundamental industry of the country. There develops the sense of ownership and respect of property. In caring for their plots the pupils fight common enemies and learn that a bad weed in a neglected

plot make trouble for others. The garden is also a pleasant avenue of communication between the school and the home. For social cooperation between city and country, it is very desirable that the inhabitants of the city in an agricultural region should have some appreciation and understanding of the various conditions affecting the farming class. In view of these facts the writer is of the opinion that the schools could well afford to secure the services of a supervisor who would continue through the summer. By this means many children would be given employment during the summer months and at the same time be kept off the streets and perhaps in better company.

ALCOTT			JEFFERSON		
Grade	Number gardens	Savings accounts	Grade	Number gardens	Savings accounts
Eight-A-I	4	5	2-A & B	II	7
Eight-A-2	8	7	3-A & B	II	14
Eight-A-3	3	7	4-B	16	7
Seventh-A ¹	11	11	4-A	14	14
Seventh-A ²	13	9	5-B	24	8
Seventh-B-	17	7	5-A	24	13
			6-B	15	9
			6-A	10	3
			6-A	13	10
Totals	56	46	Totals	138	85

SAVINGS AS RELATED TO THRIFT.

Much credit is to be given the schools for the interest manifested in savings accounts. In the two schools investigated, as is shown by the table above, there are about one-hundred-thirty pupils who have savings accounts. These accounts range all the way from a few cents to \$ 37.50. Many reported larger sums deposited in their names but investigation revealed the fact that they had not earned this amount but that the money belonged perhaps to their estate, so these were not counted.

If a certain day each week was designated for the purpose of receiving deposits and a particular teacher named to over-see the work, no doubt a great deal more interest would be manifested, and the knowledge gained by the pupils would repay for the efforts on part of teachers.

There can be no doubt in the minds of clear thinking Americans as to the imperative necessity of thrift. Said Humbolt: "Whatever we wish to see introduced into the life of a nation must first be introduced into its schools". Children learn the value of thrift from its practice among their play fellows and are quick to go and do likewise. The saving habit grows upon the child and continues in the adult.

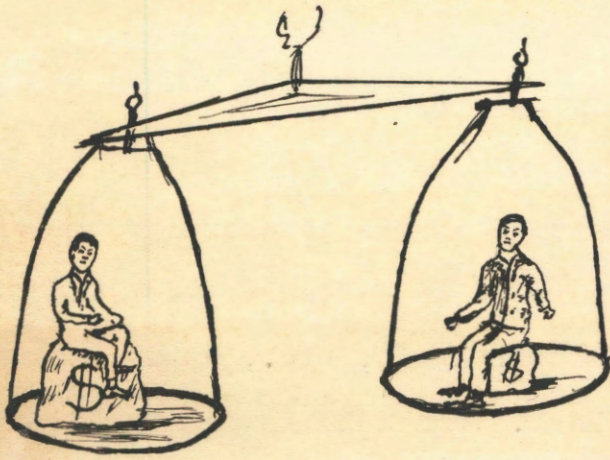
Some startling figures come to us from the American Society for Thrift relative to saving and accumulating of estates. The report says:

" Sixty-five of every 100 persons dying in this country have absolutely no estate; they die penniless. Of the remaining 35 persons, 25 never accumulate more than \$ 1,300 in their lifetime, and die with less than that. Only nine persons in 100 have more than \$ 5,000 when they die.

"Only two per cent of the whole population may be classed as "well-to-do." The other 98 per cent of the people of this country have only their wages from day to day, or are dependent upon relatives or upon charity. Of every hundred persons who reach the age of 65 no fewer than 97 are partly or wholly dependent upon relatives, friends or charity for food, clothing or shelter."

It will be seen from these figures that thrift is a virtue that needs to be taught to young people. The boy who squanders his youth in riotous living, expecting chance or luck to bring him a fortune later in life, should have the fact indelibly stamped upon his mind that he has just nine chances in 100 to ever accumulate \$5,000 or more, and if he is to be one of the fortunate ones he must begin early to save.

It is said that the American people are the greatest money makers in the world. We teach our children in our homes and in the public schools how to make money, but many homes and schools are neglecting to teach the child how to save. Give the average child a quarter of a dollar and he doesn't think of saving any of the quarter but begins planning immediately what he can buy with it.



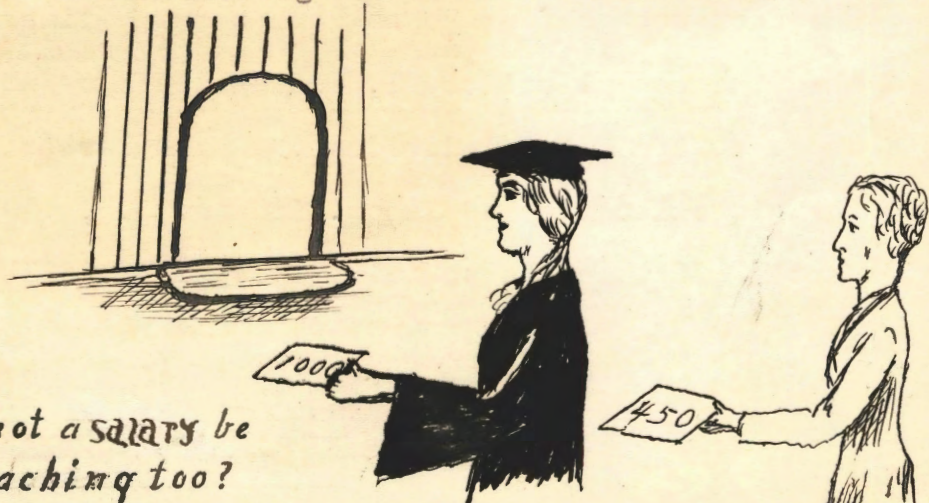
SALARIES AS A GAGE

"Just as long as we continue to pay the barber more to shape the outside of the boy's head than we do the teacher to mould the inside, just that much longer we will be asking 'what's wrong with our public schools?'" *

In the city and town schools of Oklahoma elementary school teachers receive salaries as follows: maximum, \$866.99; minimum, \$509.51; average, \$567.42. The average annual salary paid high school teachers is \$783.36, while principals of schools in Oklahoma cities and towns receive the average yearly salary of \$827.73. The average salary of supervisors of special branches is even less.

Stillwater is paying her teachers less than that of any other town of the same size that we have the records for. This is partly because of the college being located here, for teachers are willing to sacrifice in salary in order to have the advantages of living in a college town.

Supt. Monroe of Muskogee, who made an extensive study of the salary scale says: "In considering the salaries it must be noted



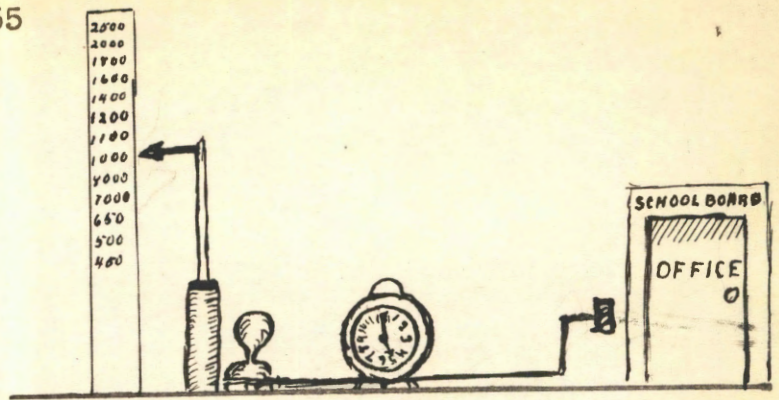
Why should not a salary be a gauge in teaching too?

* Unknown. 1 Oklahoma Ed. Asso., Supt. Monroe. pp. 13, 14, 15.

that all the available income time of the teacher for the year enters into amount received, and no larger salary for teaching is possible for extra work, longer hours, etc., as in the case of some other classes of workers. It should be considered too, that the salaries are subject to reduction for sickness, absence, or other causes. A study of the comparative earnings of teachers with those of other vocations will show the inadequacy of the salaries of teachers in Oklahoma. A hod-carrier, for instance, at the average wage of 35¢ an hour, working eight hours a day for six days a week, fifty weeks in the year, may earn \$840.00, which is nearly one hundred dollars more per year than the available salary of high school teachers, and a little better than the average salary paid school principals in Oklahoma. The hod-carrier has no investment in preliminary education, and his cost of living is necessarily less than that of a teacher. If he works at night he is paid time and a half, and on holidays or Sundays he is paid double time. He begins work at about the age the school principal enters normal school or college and works no more hours per day. He therefore, has from two to four years more earning time during his life than the school principal, and should have at the end of the average life of an individual, a much larger financial return for his existence and labor. Financially, the hod-carrier is better off than the school principal in Oklahoma."



*Should more fuel produce
more steam?**



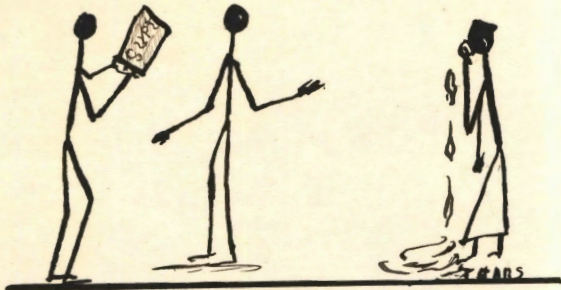
*Salaries automatically increased.**

"A wage is a gage. From the time when Adam Smith defined wages as the encouragement of industry, political economist as well as unlettered employers have understood that more pay should mean better service." *

The realization is spreading rapidly that teachers are under paid, that the increase in the cost of living has far outstripped the salary increase for teachers, and that with the present income received by teachers, as a class, it is with the most rigid economy that they can meet the present living conditions, and it is practically impossible for teachers to lay by anything for old age.

The greatest single problem with which any city has to deal is the education of its children. Upon the training of its children depends the future of the home, of the state and of civilization itself. Nothing what ever should divert us from giving our very best thought and financial backing to its solution. Children are helpless; their future are within our grasp. What is done in our schools to develop all that heredity

* The Public and Its School by McAndrew, World Book Co. pp.53, 81.



Public sentiment

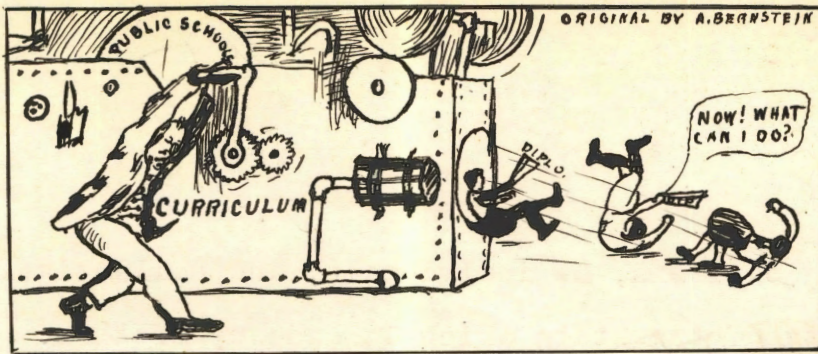
"The superintendent of any body of paid workers organized to do any specific thing is universally expected to produce evidence that all the persons employed are delivering the product paid for." *

has given that is worth while, and to prevent the development of what heredity has given that is not worth while by creating for the child a proper environment determines to a very large degree what kind of parents, what kind of business and professional men and women, and what kind of citizens our children are to become. For this reason it is necessary to pay salaries sufficiently high to keep the best teachers.

Summary

Salary increases should not be allowed merely for length of experience but to encourage increase of efficiency. Teachers should be required to attend summer schools from time to time; as well as to read professional magazines and books pertaining to their particular work. The teacher should be willing for her work to be viewed and results tested. This is the best test of any pedagogy. She should be willing to spend time to equip herself for this great work. Jesus as a teacher was well equipped. It is only reasonable to believe he spent 30 years preparing to teach three years,-- an unusual preparation and an unusual service of teaching. The best pedagogy for a teacher is that which produces results.

* The Public and Its School by McAndrew, World Book Co. p. 64.



The machinery determines the product.

THE CURRICULUM

Not long since we visited a shirt factory and as we were passing through the building we came to a room full of expensive machinery that had been discarded. The superintendent of the plant said: "That that particular pattern would ^{not} meet the competition **On** the market so the machinery had to be discarded and new machinery installed."

If our boys and girls are not what we want them to be we should change the machinery. The superintendent mentioned above did not blame the shirts; so don't blame the boys and girls.

If ^{we} were to analyze the elements of a curriculum of study which would fit our social and economic needs, we would find one in which were taught thrift, industry, respect for law and authority, right relationships and balances between social institutions and economic forces, and one which carried with it a good deal of what is called cultural training, what ever that may be.



"The proof of the pudding is the eating."

The measure of success of such a curriculum may be found in its apparent effects on the lives of people and of nations, in their ability to become self-sustaining, self-re-

specting citizens, as individuals, and collectively, in the stability of the state which is made up of them.

The events of the last few weeks and months, the condition in which our country finds itself in regard to food supply, seems sufficient proof that there is a gap somewhere along the line. There ought to be a very close relationship between a curriculum of study and the every day life industries and habits of a people.

In a democracy where the ultimate solution of all civic and social problems must grow naturally out of public enlightenment there must first be public enlightenment. The task of the school should be to take up our thousands of problems one by one, and round out the information of our young citizens concerning each of them. Their fundamental education must still be through observation and participation in practical community affairs; but the school must supplement heavily.

The schools need to find as many practical civic things to do as they can. Then in connection with each of these, they should richly supplement with information and social inspiration from the fields of history, geography, economics, industrial studies, social studies, etc.

Examples of civic topics that perhaps ought to be taken up in the schools of Stillwater are: City beautification; city street paving; city water supply; city milk supply; fire losses and fire insurance rates; city parks and play grounds; the sanitation of public buildings, churches, schools, etc; uses of vacant lots; savings banks; cost of maintaining each city department. These are only suggestive of the kinds of problems that should be looked into. Some of these are being investigated and studied already.

What has Stillwater been paying for the maintenance of streets? Is the amount large or small? How much per capita? How does this compare with other cities? There must first be facts before there can be interpretation, explanation, or teaching.

Civic education demands that there be meetings of adults where the youth of the city can attend, which are being addressed by the members of the board of health, the officials of the county and city, the leaders of every civic movement within the community. The high school and every school is in need of an auditorium large enough to seat at one time a large part of the school and a large part of the community. Here should meet regularly City Improvement Associations, Civic Leagues, Parent's Organizations, etc., to be addressed by leaders of community labors. The children should then attend and listen to these discussions in as full degree as possible as apart of their necessary education.

Unfortunately Stillwater has no auditorium where such meetings can be held. Auditoriums for such purposes cost money. But they can be paid for out of the savings to the city that can come from such civic enlightenment.

Recognition of the needs of relating the teaching of ^{the} schools to outside social matters is indicated most clearly in the use of Current Events. In the beginning of several recitations visited a few minutes were given to the presentation of a number of topics of current interest, the facts being taken from current newspapers. The facts, however, were chosen at random. They lacked sequence; they were not connected up to problems that were being studied intensively by the class. In no wise were they related to the rest of the recitation. For effectiveness the classes need to have such a list of topics for perennial study as we have mentioned. Then current events can be brought to bear upon topics which have been studied. Only as knowledge is used, is it properly assimilated.



What is a superintendent for?

There were no experts in charge of public schools until as late as 1837. In this year, the people of Louisville, Ky., appointed the first superintendent of schools in this country and a few months later a superintendent of schools was appointed in the city of Buffalo, N.Y. After nearly eighty years of development under this devised centralized and specialized system for the management of our public schools, a period in which their growth and efficiency has fully equalled if not surpassed the development in every other field of human endeavor.

A large part of a superintendent's work consists in selecting trained teachers, providing for their development after appointment, and eliminating those who, for any reason which it is within their power to overcome, fail to become better trained than at the time of their appointment. A diploma from a normal school or college is by no means conclusive evidence of a good teacher any more than graduation from a law school makes a good lawyer; such preparation is only the necessary beginning of professional excellence. In all of his recommendations affecting the appointment, the dismissal, or the salary of a teacher, the superintendent must be guided entirely by the best interest of the school. He is the one person competent to decide these highly technical matters.

Bibliography

Teachers should take their school affairs to their principal and supervisor and, then, if not satisfied with the results, to the superintendent. Only in extreme cases when all other means have been tried and failed should she take her case to the board or to any of its committees. In any city where this lack of orderly procedure exists and where the conditions are such as to bring about a change in superintendents every few years, the whole school system suffers great harm, and soon comes to be regarded as an educational Sodom, a place to be avoided by all who value their professional reputation.

Like the expert hospital physician he should spend most of his time in studying the factors of the situation and in making decision as to what is to be done. He should be an observer, an investigator, and a director. Most or all of the routine labors will be carried out by others. He should spend little time in the office. He should spend little time in actually directing the work of the class-room teacher. He should, however, spend considerable time within the class rooms by way of seeing how general policies are being carried out.

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 perhaps are the parent-teacher associations. By temperament he is peculiarly suited to render this type of service, and he would be able to serve the community better if

"The director of a large educational plant has as much need of tables of results as a bank has of its balance sheet or a store of its sales report."*



AT-THE-CLOSE

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, file all papers, etc. 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 \$60. 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.

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.

The superintendent of schools has as much need of tables of results as the business man has for his balance sheet. He should have at hand tables of results that will show the following:

- I. Promotion and Non-Promotion.
 - (a) Total enrollment for semester.
 - (b) Number in class at end of semester.

* The Public and Its School by Mcandrew. p. 35.

- (c) Number in class at end of semester
 - 1. Promoted
 - 2. Not promoted
- (d) Per cent of non-promotions.

2. Failures by studies.

3. Degree of overageness.

- (a) Under normal age
- (b) Over normal age

4. Children dropped from elementary schools.

- (a) Total enrollment.
- (b) Going to private or parochial schools.
- (c) Leaving city.
- (d) Per cent of enrollment dropped.

5. Report on absence.

- (a) Illness of child.
- (b) Quarantined.
- (c) Poverty.
- (d) Inclement weather.

6. Dropped pupils.

- (a) Incapacity (Physical)
- (b) Incapacity (mental)
- (c) Indifference to school work.
- (d) Left to go to a private or parochial school.
- (e) Truant.

This is only a suggestive list and no doubt many points that are much better than some noted here could be added and perhaps some of these could be left off. But the need of checking up at the close of school is obvious and this can not be done with any degree of accuracy unless blanks are prepared especially for noting the points. Every teacher should be required to keep accurate records and these should be checked by the principals before sending to the office of the superintendent.

The schools of the city of Stillwater exist for the education of all the children of the city. Only as the schools reach and give to the children of the city at least a complete elementary-school education, if not a high school education, are they fulfilling their function and performing their full service. The efficiency of the schools can be judged, therefore, from this point of view, only when it is known to what extent they are reaching all of the children of the city of school age, and to what extent they are holding them in school.

Public School Enrollment, Versus School Census.

AGES Includes the first and cludes the last no.	Public Schools.	School Census	Per Cent in public schools
Between 6 and 8	129	152	84%
Between 8 and 14	440	492	93%
Between 14 and 18	134	186	78%
Between 16 and 21	110	388	28%
Enrolled in High Sch.	217	???	???
Total	1030	1255	***

Number and % of Children Under-age, Normal-age, Over-age.

	Under-age		Normal-age		Over-age		Total reported in grade
	No.	Per cent Under age	No.	Per cent Normal age	No.	Per cent Over-age	
1.	8	10.37	57	74.02	12	15.58	77
2.	12	13.79	46	52.87	29	33.55	87
3.	19	21.11	48	53.33	23	25.55	90
4.	15	15.00	46	46.00	39	39.00	100
5.	15	19.23	28	35.89	35	44.87	78
6.	11	12.79	25	29.07	50	58.13	86
7.	14	14.43	31	31.95	52	53.61	97
8.	6	7.69	16	20.51	56	71.77	78
	100		297		302		699

Promotion and Non-Promotion					
Grade	Total Enrollment for Semester	No. in class at end of semester	Number in class at end of semester		Per cent of Non-Promotion on base of No. at end of semester
			a Promoted	b Not Promoted	
1 A	42	40	16	2	5.26
1 B	20	18	38	2	12.50
2 A	50	42	³⁹ 46	3	6.52
2 B	35	34	27	7	25.92
3 A	53	52	49	3	6.12
3 B	34	33	30	3	10.00
4 A	57	57	57	0	0.00
4 B	46	45	41	4	9.99
5 A	40	40	40	0	0.00
5 B	42	42	36	6	16.66
6 A	55	53	50	3	6.00
6 B	39	36	31	5	16.13
7 A	61	57	49	8	16.32
7 B	42	38	33	5	15.13
8 A	40	40	35	5	14.28
8 B	36	34	22	12	54.54
Total	692	668	600	68	11.33

It will be observed that the per cent of non-promotions is rather uniform except in 2 B and 8 B. Also, that in 4 A and 5 A they all passed.



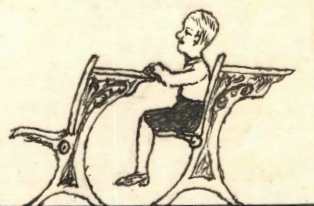
Blackboards.

As a whole the blackboard facilities for the schools are quite good. In most of the rooms there is sufficient space to accommodate the pupils without too much crowding. One great fault to find with the blackboards, however, is that they are too high in many of the rooms. The child is compelled to tip-toes and then can only use the lower one third of the board. Some architects seem to think that the boards should all be of uniform height regardless of the size of the pupils.

Seating.

The seats are all non-adjustable.

Under this condition it is difficult



A Misfit

to seat all the pupils of a room comfortably. For a pupil to sit correctly the seats should not be too high nor too low, besides it is injurious to the child. When seats are too high the pupils are apt to swing the feet in the air and cause abnormalities at the knees. Adjustable seats are to be had which can be adjusted to suit the height of the pupil. For work in upper grades perhaps the adjustable chairs are the better, since they can be arranged in any position desired.

FIREPROOF CONSTRUCTION.

The buildings are not fireproof. Fire escapes have not been provided. It certainly seems risky not to have an exit that would accommodate all the pupils; especially when we consider that the entire stairway is composed of wood and is highly saturated with oil, from oiling the floors. The pupils are well trained in fire drills. We watched the pupils march from the various buildings, after we had turned in the alarm unbeknown to any others, and the order and coolness of both pupils and teachers were certainly to be commended. This tends to minimize the danger from fire, but it could be further decreased by installing fire escapes or fireproof stairways. The only available fire escape is at the Alcott building and it can only be used from one floor.

TOILETS.

Throughout the schools the toilet facilities are seriously deficient. Standard practice,* founded on the experience of many cities, demands that in elementary schools there shall be one seat for each 15 girls and one seat and one urinal for each 25 boys. The toilet stalls have no doors. This is a thoroughly bad practice and should be remedied. No citizen of Stillwater would tolerate such an arrangement in his home and there is no reason why his children should be subjected to it in school. Each toilet stall should be provided with a short door set well above the floor and arranged with spring

* Survey- The Springfield Schools, Dr. Ayres. p. 35.

hinges so that it will swing in when the stall is not in use. This will afford privacy and facilitate sanitation and inspection.

In one building the toilets have been placed in a double-row down the middle of the room. It is much better to place them in a single row against the wall. This allows for a far lighter room and one more easily cleaned and supervised.

The toilet rooms are too small and too poorly lighted. We can't expect our boys and girls to have pure clean thoughts when they are compelled to use dark, dingy toilets which are too small to adequately accommodate them.

DRINKING WATER.

The drinking water is perhaps the best that can be provided under present conditions. The drinking water for each school is supplied from a well. The water is tested each year. A great improvement would be to install Sanitary Drinking Fountains. These can be had where the fountain is fed by means of a force pump. Communicable diseases are easily spread by means of the common drinking cup.

Care of Floors.

In general the floors of the schools are well cared for. The common practice is to oil them as often as needed which is quite frequent in the hall ways and stair ways. The buildings are fumigated from time to time as necessity requires. A dust-absorbing compound for daily sweeping should be used. A cloth well-oiled should be used for dusting the furniture.

Cleaning of Windows; etc.

As a rule the housekeeping of the Stillwater schools is well done. Most of the buildings are neat and clean. They are reasonably free from defacing marks, and paper is not allowed to be thrown about the grounds and buildings. As a rule the windows are washed twice a year.

School Grounds.

The grounds at both the Lincoln and the Jefferson buildings seem amply large to accommodate the play activities of the children. The grounds at the Jefferson building need filling in; otherwise they are splendid. The grounds at the other two buildings are small on account of two buildings occupying the grounds which were intended only for one. The grounds at these buildings need filling in. If the grounds were planted in flowers and had a little more attention during the summer months it would add considerably to the appearance of the city in general.

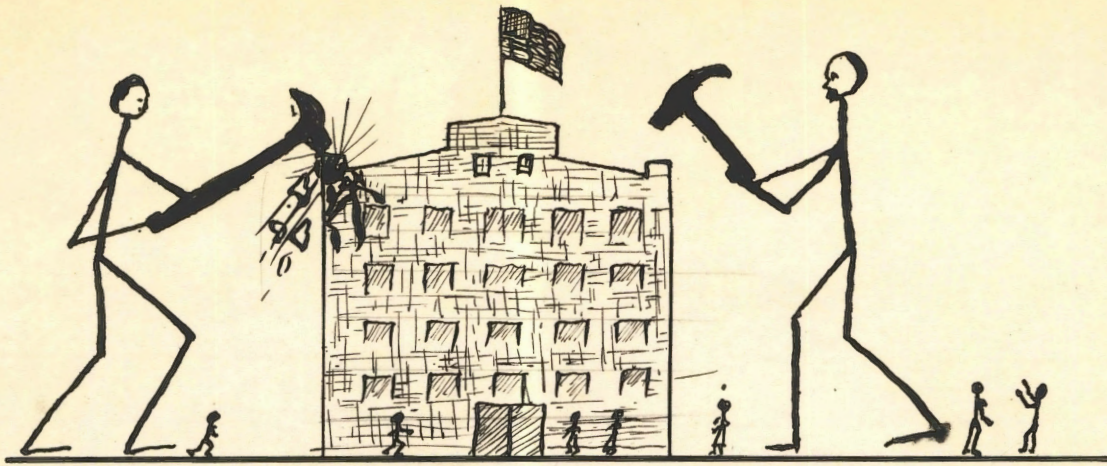
EDUCATIONAL CRITICS

Are laymen, professional men and co-workers in education justified in their criticism of educational work? Tolstoy, in his fables for children, does not say; but he does tell us about an Indian king who ordered all the blind men to be assembled. When they came, he ordered that all the elephants be shown to them. The blind men went to the stable and began to feel the elephants. One felt a leg, another a tail, a third the stump of a tail, a fourth a belly, a fifth a back, a sixth the ears, a seventh the tusks, and an eighth a trunk. Then the king called the blind men, and asked them: "What are my elephants like?" One blind man said: "Your elephants are like posts." He had felt the legs. Another blind man said: "They are like bath brooms." He had felt the end of the tail. A third said: "They are like branches." He had felt the tail stump. The one who had touched the belly said: "The elephants are like a clod of earth." The one who had touched the side

said: "They are like a wall." The one who had touched a back said: "They are like a mound." The one who had touched the ears said: "They are like mortar." The one who had touched the tusks said: "They are like horns." The one who had touched the trunk said: "They are like a stout rope." And all the blind men began



"I never read a book on pedagogy in my life"



"Knockers"

to dispute and to quarrel with the keepers of the elephants and among themselves.

Every now and then a "blind man" attempts to tell the officials of our schools that the three "R's" are not receiving the attention today that they should receive. That we are teaching subjects that were not taught them in school, etc. When as a matter of fact we are not doing many things today as our forefathers did; so why judge the schools by that standard? Criticism should be invited by the school officials and then given by those concerned in such away that it will do good.

Years ago many made the old excuse that made for stagnation: "A teacher is born and not made." At the same time teachers were heard to boast: "I never read a book on pedagogy in my life." We can see a great difference in the way our school men and women regard the value of aids which refreshen and revise ideals; and today no thoughtful person would dare make such a remark.

It is self-evident that all the people of a community must cooperate so that the accumulated experience of all may be made available for each and every child in all phases of human endeavor, no one of which lacks representation in the modern educational program. Also, it is self-evident that in order to safeguard the future of our children, the management of our schools must be entirely independent of all partisan political control, and of the control of all religious, fraternal, social or other exclusive bodies.

Stillwater is fortunate in having the strong type of men on the Board of Education that she has. It is very evident that these men are all working for the interest of the twelve hundred boys and girls of this city.

Education is a community problem, as large as the entire community, one in which the whole community may take part, and one from which the community should exclude all things in which only a portion of the community has an interest.

The roll-call of a board of education should be a roll-call of the leading business and professional men of the community-- men of the largest affairs, men too large minded to traffic in the future of helpless children. Such men are to be had and, once found, they should be retained as long as they can be induced to remain in the public service since permanency of policy is fundamental in the development of a school system.

MEDICAL INSPECTION.

We are today in the maelstrom of a movement for conservation; waste and loss are measured from every standpoint; the gospel of efficiency is being preached as never before, from every line of business.

In 1830 but five per cent of our population lived in* the cities; today very close to 70 per cent live in the cities. Think of what that means to education! With 95 per cent of the children out in the open fields, breathing the pure air of the country, nourished with food that had not undergone adulteration, and trained in the varied pursuits and crafts of the farmer boy and girl of that day, it is not surprising that little thought was given by the educator to the physical welfare of his pupil. Now contrast that life with that of 70 per cent of the children of the United States today, with fewer duties and obligations such as exercise the muscles and quicken the intellect. When the child returns from school today he does not have many chores to do. When a child was close to nature, nature took care to correct the imperfections made by unintelligent civilization. But when nature is overtaxed by the rush and hurry of a city existence, she refuses to cope with the situation, and we are rearing a race of weaklings for future citizenship.

* U.S. Census report.

The great need of conserving the child for the nation appeals more strongly to us now than ever before. What can we do to remedy this defect? We can not send him back to the country to live; we must deal with the condition as it exists. Therefore, he must have training to aid his perfect development to take the place of his former simple life.

Many of our cities today have trained physicians and trained nurses to look after the health condition of the pupils. The Parent Teachers' Association of Los Angeles, Calif. is responsible for a most successful public school clinic. The purpose of the clinic is to give medical and dental aid to the pupils of the public schools, whose parents are financially unable to pay the customary physician's and dentist's fees, but who may be able to pay in part, or unable to pay any fee whatever-- this in the interest of better childhood and the future efficiency of adult life. This is only an example of what scores of our cities are doing in the interest of better childhood. Besides, there are a number of business concerns that are doing a great work along this line. The Metropolitan Life Insurance Co. * of New York City is an important factor in the work of the world for health and hygiene. It has aided schools in educating the young in hygiene and even formed partnerships with states for the extension of this sort of work.

* Oral Hygiene, June 1917. Vol. 7. NO. 6. pp. 606 to 616.

All the managers of big league teams realize the importance of dental work for the players; that the healthy and continued life of the whole body depends upon the air it breathes and the food it assimilates, and that both of these are directly affected by the conditions of the mouth.

Many physicians believe that practically 95% of all tubercular infection takes place either in or through the oral cavity, the mouth. With healthy, well-kept mouths the danger in this direction would be almost nil. The habit of shutting thirty or forty pupils in one room, and it poorly ventilated, many of whom never clean their teeth; all breathing the same air over and over again is very conducive to the rapid development of many contagious diseases.

The Stillwater schools have aided very materially along this line by detecting various ailments among the pupils and then calling the attention of the parent to this defect. Most all the parents have readily responded and have had the pupils examined and the defects remedied. These defects have been varied. Some pupils have been stupid in thier work caused from adenoids and after the removal of the adenoids these pupils have usually kept pace with or a little a head of the average of the class. Some have had headaches and could not study but after being fitted with glasses did excellent work. There is no doubt that if each child be taught to intelligently keep thoroughly clean and healthy the gateway to his system, the mouth, we will have a healthier, more self-respecting, and all-around better class of citizens for the next generation.

IT MIGHT NOT HAVE BEEN.

<p>" O, the cry of the child that's so needless! The pain that should never have been! If only we'd guarded the gateway Where disease germs came flocking in."</p>	<p>" O, the cry of the child that's so needless! The pain that should never have been! If only we'd giv'n them a tooth brush Those disease germs might not have gone in." *</p>
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Experiment stations in agriculture have made the science of agriculture and have yielded results of enormous value. We haven't done much in the educational field because of the lack of tools, and lack of initiative on the part of school men. We now have tools in the form of scales and tests and others are being developed. It is hoped that these tools will do for education what the babcock tester has done for dairying and what other scientific tool have done for their respective sciences; also, that school men in general will develop initiative and will use the tools that are now available in the educational field.

In closing this report I desire to thank again the members of the school board, the superintendent of schools, and the teaching staff for the uniform courtesy and kindness which has been shown to me; also, I wish to express my appreciation to those with whom it has been my pleasure to glean from in the educational field without which my meager efforts along this line would have been in vain.

* Unknown.

Summary, Conclusion and Recommendations.

The conclusions which were reached and the recommendations made are based upon observations made in the schools, or upon data which was collected, and which appears in the tables and graphs to be found in this report. Summaries are also given at various places throughout the report. In order for any one to understand the conclusions which are reached and the recommendations which are made it will be necessary to read the entire report.

Promotion and Non-Promotion.-- A careful study of promotion and non-promotion in the schools, as is shown by the tables in the body of this report, shows an extraordinarily large number of non-promotions in 2 B and 8 B. Teachers of strong personality and who have had special preparation for handling backward children should be placed in charge. Perhaps a better plan still would be to organize a special class or room and put all those who fail from time to time, in this room where they may have expert service at the hands of one who is especially trained to do this work.

Per Cent of Children Under-age, Normal-age, Over-age.-- It is surprising to find that, of the total number reported, only 100 were ahead of their grade, as compared with 302 who were behind. The seriousness of children becoming over-age depends on the grade they are in, and on how far they have fallen behind their grades. The percentage of over-ageness is greatest in the eighth grade where the high water mark of 71.77 per cent

is reached. This is a critical situation for this grade and extreme precaution should be taken in order to keep them from dropping out of school at this time. However, it will be noticed that the schools are reaching very effectively the pupils of school age. This is a very good test of the work that any school system is doing.

Spelling.-- The schools did unusually well in spelling. The average is above that of other cities except in the second grade. No doubt much time could be saved if only the missed words were emphasized and only those pupils who missed these words were required to study the list. Some rooms could well afford to spend more time on spelling. A study of the graph on the spelling work will reveal this fact.

Arithmetic.-- Some of the pupils in the various grades could not finish a single example in the fundamentals, in the required time. This does not mean that the work as a whole does not compare favorably with other cities. The median score in most of the grades was above that of other cities. We would suggest that pupils be tested and placed in classes where the work is consonant with their ability. It is surely a waste of time to have pupils in a class who can not finish a single example correctly in the allotted time.

Reading.-- The reading tests show a wide range of variation between room of the same grade. This shows that some rooms are failing to get the thought from the printed page. Some rooms were too outstanding in this respect. Many times pupils seemingly, read understandingly, when as a matter of fact they do not get the thought from the printed page. We feel that more stress should be placed on thought-getting and that the principals should watch for this when visiting the rooms.

Reports.-- The reports as made out by the teachers for the principals are not made out carefully enough. These should be checked by the principals before passing on to the superintendent. A balance sheet should be made out at the close of each semester showing promotion, non-promotion, failures by subjects, estimated cause of failures, etc. Also, cost of instruction per grade, school, etc.

Recommendations.

1. It is recommended that the superintendent be furnished a secretary.
2. Insist on lighting of class rooms from left only.
3. Establish rules for ventilating of class rooms and insist on their observance.
4. Place some seats and desks of varying sizes in each room. Equip some rooms in each building with the new movable combined seats and desks.

5. That the teacher of agriculture be hired so as to work through the summer, in order, that the home-garden work may be supervised.

6. That changes needed to insure greater protection against fire be made.

7. That principals be not required to teach so much and thus be left more free for their work of supervision.

8. That a systematic effort be made to further reduce the number of over-age pupils in the several grades.

9. That an effort be made to secure greater permanance in the teaching staff by raising the salary of teachers.

10. That a systematic effort be made to secure a more active cooperation on the part of parents who have children in the schools.

11. That a High School building be built as soon as possible with an auditorium large enough to seat a large part of the school and a large part of the community at one time.

12. The board of education should employ a director of physical training thoroughly versed in school athletics and playground work. He should coach the teachers and have charge of the summer playgrounds in school yards and park places.

13. That a supervisor of penmanship be employed.
14. Arrange blackboards in class rooms with reference to the size of the children who are to use them.
15. That medical inspection of the schools be planned and put into operation.
16. That social work for the community be planned so as to use the grounds and buildings more.
17. The school grounds should be planned so as to devote part of their areas to grass and flowers, and other parts to playgrounds and play equipment. In addition there should be one centrally located athletic field for use by high school students and for the inter-school games of the entire city.

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