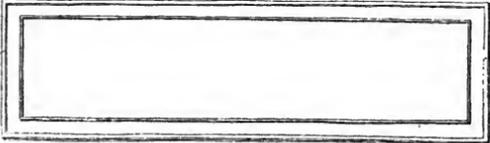
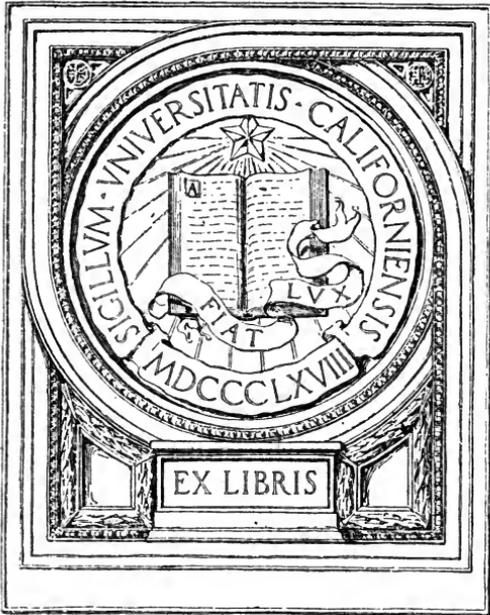




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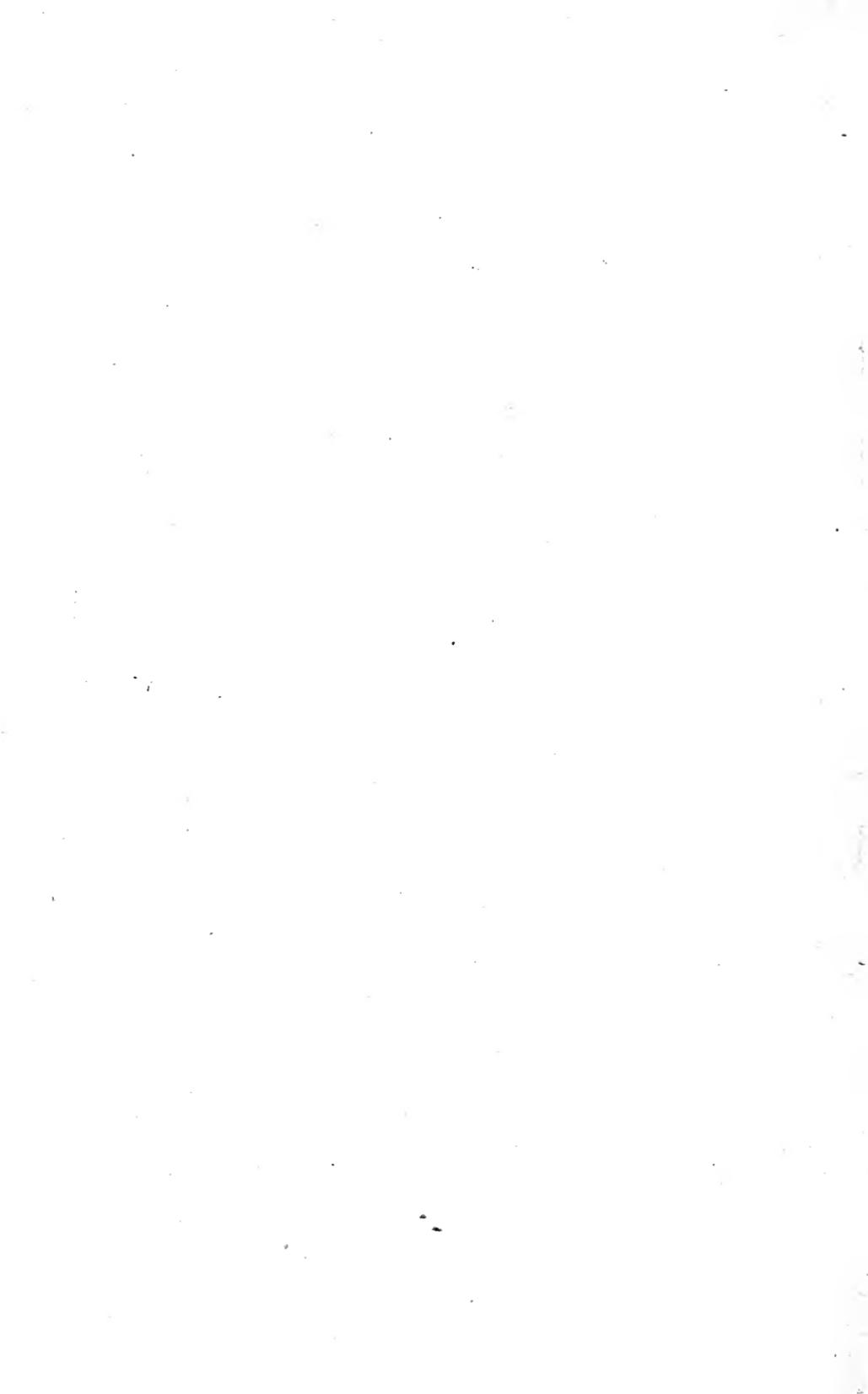


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HENRY L. BOLTWOOD.

The first township high school principal in Illinois, who organized the Princeton Township High School in September, 1867.



# ILLINOIS HIGH SCHOOLS

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Their Organization, Maintenance, Administration and Instruction  
with Particular Reference to the Township High School

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BY

LEWIS WILBUR SMITH, A. M.,  
Principal of Thornton Township High School  
Harvey, Ill.

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*g. b.* Issued by

FRANCIS G. BLAIR,  
Superintendent of Public Instruction

STATE OF  
ILLINOIS

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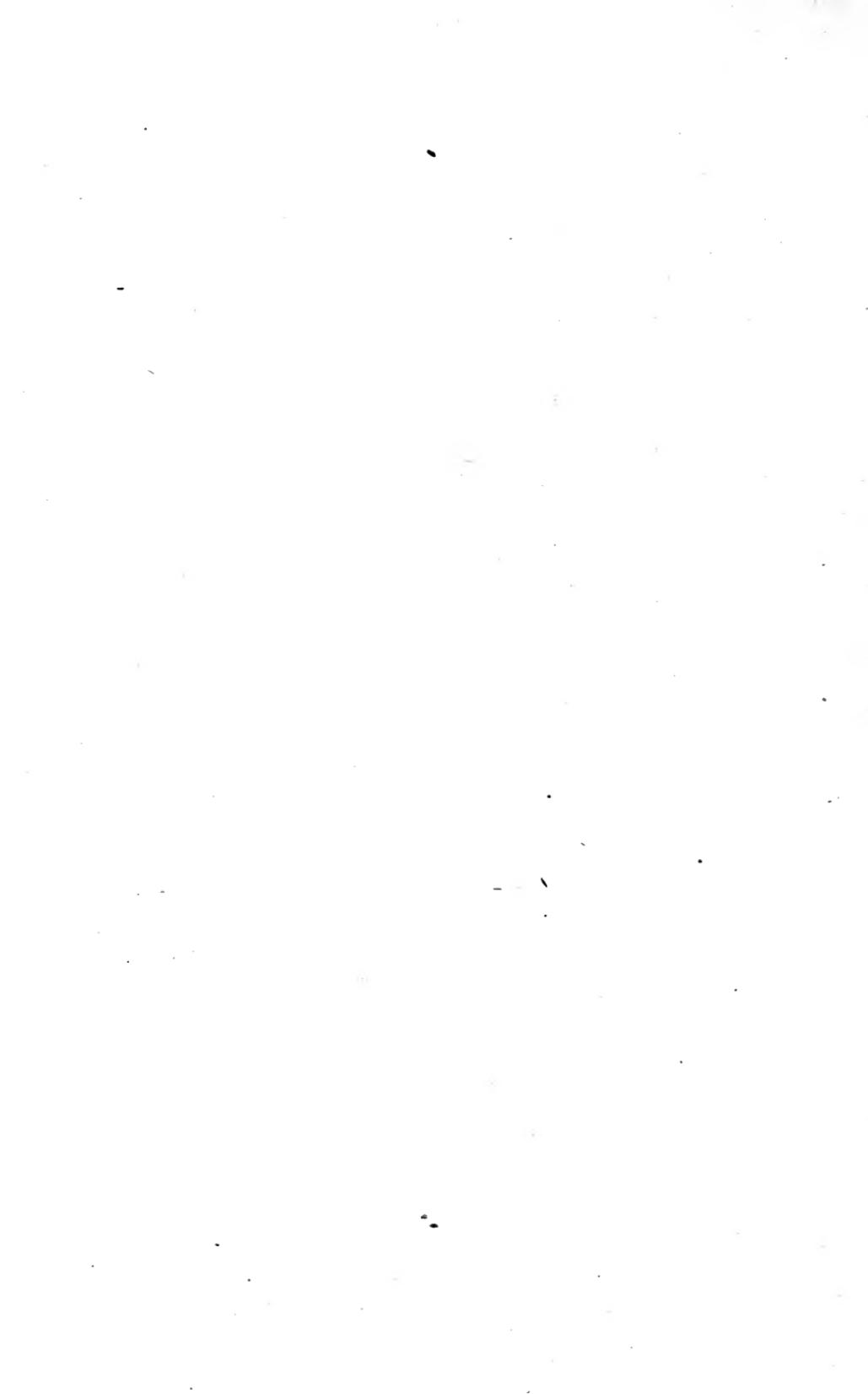
### **ACKNOWLEDGEMENTS.**

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The body of the work in the following study is based primarily on original records in the office of the Department of Public Instruction of the State of Illinois. These records were made available to me for the purposes of this study by the cordial cooperation of that office. For this cooperation and assistance I am thoroughly grateful.

Liberty to pursue this study effectively was made possible by the unusual action of the members of the board of education of Thornton Township High School, who in order to promote this investigation gave me permission to devote to it whatever time might be necessary, consistent with the adequate discharge of my regular duties. I am under great obligation to them for the opportunity which this permission afforded.

L. W. S.



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## INTRODUCTION.

No other part of the common school system is in such a state of flux and flow as that part called the high school. Even the number of years of work to be assembled under this term is a matter of discussion. The unusual growth in attendance in these upper grades of the common school has forced us into a thoroughgoing investigation of all the elements and forces involved in the high school situation.

In 1906 there were 52,394 pupils enrolled in the high schools of Illinois. In the year 1916 there were 102,870 enrolled, an increase of 96 per cent in ten years, while during the same period the increase in the enrollment in the elementary grades was only 4.8 per cent. During the year ending June 30, 1916, the enrollment in the high schools had increased 10.5 per cent over the previous year, while the enrollment in the elementary schools had increased only 1 per cent.

In 1906 there were 438 high schools reported to this office. In 1916 there were 827 high schools. During this decade the number of teachers employed in the high schools increased from 2,057 to 4,691. The operating cost had grown from \$2,119,814 to \$6,788,542. The value of the equipment had increased from \$7,982,988 to \$26,233,583.

These data indicate clearly the need of a thoroughgoing study of the laws, plans and methods for organizing, maintaining, administering and instructing these high schools. In Illinois there are at least three distinct plans and methods warranted by law and by custom for organizing and maintaining high schools.

The oldest of these was the establishment of a high school as a mere extension of the elementary school under the control and management of the same board of education. With the widespread demand for the establishment of high school privileges, it was found that many districts were unable to maintain a good elementary school and a good high school out of the proceeds of the one tax allowed by law. It was also discovered that where the high school and the elementary schools were placed in competition for their share of the local school funds the high school was sure to procure a relatively larger portion of the fund than the elementary schools, the pupils of these lower grades losing something in the length of term and equipment, in the variety of courses of its instruction and in the quality of the teaching. Mainly to overcome these difficulties, the Township High School Law was enacted. It provided a plan and a method for organizing larger districts, including the underlying elementary districts. The township high school district thus formed with its regularly constituted board of education was given the power to levy a tax to operate a high school independent of the tax laid by the boards in the underlying districts for maintaining the elementary schools.

The first law of this kind was in the nature of a special charter, under which was established the Princeton Township High School. In 1872 the provisions of this law were made general. At almost every subsequent session of the General Assembly the law has been modified. Substantially 100 high schools have been established and are in operation under this old Township High School Law. In 1911 a new form of the Township High School Law was enacted. The plan and method for organizing the district were made easier. Under this law within the brief period of five years 193 districts were established.

Another method which has not been very generally used is a modification of the first plan. It provided for the consolidation of elementary school districts into one central school under a board which may provide high school privileges, as well as elementary school privileges to the pupils enrolled.

It is not strange that in such a period of great development in high school organization, with such variety in plan and method for effecting these organizations, with such widely variant ideas as to what should be the program of studies and the method of instruction, confusion and sometimes conflict has arisen. Boards of education and supervising officers are seeking earnestly to discover the basis of observed fact on which to project their plan of organization and administration. Many surveys and investigations have been made along this line. So far as my information goes, no investigation of such a thoroughgoing and worth while character into the fundamental elements and factors of the question has ever been made as the one, the results and conclusions of which are presented in this volume.

The office of Public Instruction and all school officers related to the high schools of Illinois are under obligations to him who has, with painstaking care and thoroughness, studied the situation, compiled the facts and drawn the conclusions.

*J. G. Blair*

*Superintendent.*

## CHAPTER I.

### SOURCES AND METHOD OF THE INVESTIGATION.

It is the purpose of this paper to describe as thoroughly as possible the characteristics of the high schools of Illinois with particular reference to the township high school. In studying the township high schools the comparative method has been followed and consequently the information concerning the city high schools is almost as complete as that for the township high schools. This report is primarily concerned with their actual status and operation as educational institutions. In studying the characteristics of this group of schools it is our aim not only to describe what is found but also to set up certain standards of efficiency. For example, the excellence of the plant and the completeness of the equipment contribute to the efficiency of a school. However, we might find excellence of equipment in certain features and deficiencies in other features. We can estimate the completeness of a school or a system of schools only by examining all or nearly all its factors. No measure of efficiency, however, is complete which does not give an account of the efficiency of students after they have left the school. At the present time there are no adequate standards by which to measure the efficiency of high school students, though such standards are now in process of development. In this study we have not been able to find any material which bears directly upon the efficiency of students except the careers of the graduates from the various high schools in the university. This is a just though not a complete measure of efficiency, and will be discussed in detail in a later chapter.

The largest part of the material for this report was derived from records entered upon a blank in the State Superintendent's office, known as Director's Annual Report (Form No. 2). A copy of this blank is as follows:

TO BE FILLED OUT BY THE SUPERINTENDENT OF SCHOOLS, AIDED BY THE CLERK OF THE BOARD.

ANNUAL REPORT (FORM 2).

This form to be used in reporting to the township treasurer and county superintendent the following schools: 1st—All districts with cities and villages having a population of 1,000 or more. 2d—All districts maintaining three or more years of high school. 3d—All districts maintaining a two year high school which holds a certificate of recognition by the department of public instruction.

For the year ending June 30, 1915.

A prompt and careful report of all required statistics is one of the conditions of recognition of any high school by the department of public instruction.

Name of District ..... No. .... County, Illinois.

1. School census:	All under 21 years of age.			All between 6 and 21 years of age.			Date of census: .....1915
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	

Elementary.

Enrollment.	Kindergarten.		1st yr.		2d yr.		3d yr.		4th yr.		5th yr.		6th yr.		7th yr.		8th yr.		Total.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.

Secondary (High).

9th yr.		10th yr.		11th yr.		12th yr.		Total.		Grand total	
Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.

High school courses offered:  
Indicate by X and give length.

Academic (classical, scientific, etc.)	Yrs.
Commercial	Yrs.
Technical (M. T.)	Yrs.
Agricultural	Yrs.
Domestic Economy	Yrs.

- Length of school year in months..... Actual number of days in session.....
- Whole number of different persons employed as teachers during the year: (Include all who taught part of the year)..... Men..... Women..... Total.....
- Number of eighth grade promotions..... Boys..... Girls..... Total.....
- Number of elementary tuition pupils..... Boys..... Girls..... Total.....
- Number of high school graduates..... Boys..... Girls..... Total.....
- Number of high school tuition pupils..... Boys..... Girls..... Total.....



29. SALARIES OF TEACHERS.

Enter in the following table the number of teachers in day schools paid the different annual salaries.

Salaries.	Elementary.		Secondary.		Salaries.	Elementary.		Secondary.	
	Men.	Women.	Men.	Women.		Men.	Women.	Men.	Women.
Less than \$ 200.	.....	.....	.....	.....	\$1,200 to \$1,299.	.....	.....	.....	.....
\$ 200 to 299.	.....	.....	.....	.....	1,300 to 1,399.	.....	.....	.....	.....
300 to 399.	.....	.....	.....	.....	1,400 to 1,499.	.....	.....	.....	.....
400 to 499.	.....	.....	.....	.....	1,500 to 1,599.	.....	.....	.....	.....
500 to 599.	.....	.....	.....	.....	1,600 to 1,699.	.....	.....	.....	.....
600 to 699.	.....	.....	.....	.....	1,700 to 1,799.	.....	.....	.....	.....
700 to 799.	.....	.....	.....	.....	1,800 to 1,899.	.....	.....	.....	.....
800 to 899.	.....	.....	.....	.....	1,900 to 1,999.	.....	.....	.....	.....
900 to 999.	.....	.....	.....	.....	2,000 to 2,499.	.....	.....	.....	.....
1,000 to 1,099.	.....	.....	.....	.....	2,500 to 2,999.	.....	.....	.....	.....
1,100 to 1,199.	.....	.....	.....	.....	3,000 and over.	.....	.....	.....	.....

DISTRICT EXPENDITURES.

Township treasurers are not to copy these items.

The superintendents of districts maintaining a school system that includes a high school of three years or more, and of only two years if recognized by the Department of Public Instruction, are required to fill out both columns on pages 1 and 3 in connection with the rest of this report. The first column refers to the whole system, including the high school.

No item under general control is to be given in the high school column, and Items 18a and 48 are to be blank unless the building is used exclusively for high school purposes. In case an item under current expense is used for both elementary and secondary schools, the amount expended should be apportioned between the two classes of schools, except items under general control as mentioned above.

Township high schools may be reported in total column.

A prompt and careful report of all required statistics is one of the conditions upon which the annual registration of certificates or their renewal may be secured.

Current expenses.	Total for elementary and secondary (high) schools.				Expended for secondary (high) schools only.			
42. General control:								
(a) School boards and business offices.....	\$				X	X	X	X
(b) Compulsory attendance.....					X	X	X	X
(c) Superintendents who do no teaching.....					X	X	X	X
43. Instruction:								
(a) Supervisors and principals who teach less than half time.....								
(b) Teachers and principals who teach half time or more.....								
(c) Textbooks, stationery, supplies, etc.....								
(d) Interest on teachers' orders								
(e) Tuition of transferred pupils (paid by this district)								
44. Operating school:								
(a) Janitors, engineers, etc....								
(b) Fuel, water, light, power, janitors' supplies, etc. .								
45. Maintenance of plant (repairs, replacement of equipment, insurance, etc.)..								
46. Auxiliary agencies:								
(a) Libraries.....								
(b) Promotion of health.....								
(c) Transportation of pupils								
(d) Rent.....								
(e) Night schools.....								
(f).....								
(*) (Itemize all amounts over \$10.00)								
47. Total current expenses.....								
CAPITAL OUTLAY.								
48. New grounds and buildings, alterations of old buildings (not repairs).....								
49. New equipment (not replacements).....								
50. Total capital outlay.....								

SUMMARY FOR HIGH SCHOOL ONLY.

Enrollment.....	.....
Average daily attendance.....	.....
CURRENT EXPENSES.	
General control.....	.....
Instruction.....	.....
Operating school plant.....	.....
Maintenance of plant.....	.....
Auxiliary agencies.....	.....
<hr/>	
Total current expenses.....	.....
Cost per enrollment.....	.....
CAPITAL OUTLAY.	
New grounds and buildings.....	.....
New equipment.....	.....
<hr/>	
Total capital outlay.....	.....
Total expenditures.....	.....

ANNUAL REPORT (FORM 2).

For the year ending June 30, 1915.

Name of district.....	No.....
Township.....	Range.....
.....	.....
.....	Clerk.....
Address.....	This report was made out by.....
.....	.....
.....	Superintendent.....
Address.....	.....
Filed.....	.....1915
.....	.....
.....	Twp. Treasurer.....

The Law Concerning the Report of School Directors:  
 On or before the seventh day of July, annually, the clerk of each board of directors shall report to the township treasurer having the custody of the funds of his district, such statistics and other information in relation to the schools of his district as the township treasurer is required to embody in his report to the county superintendent of schools.—School Law, Sec. 113.]  
 The penalty for failure of make this report AT THE TIME AND IN THE MANNER required by the above law is twenty-five dollars, and school funds may be withheld from distribution.

OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION.

INSTRUCTIONS.

Item 1. Report to the treasurer of each township in which your district lies the correct number of persons under 21 years of age and the number between 6 and 21 years of age, living in that part of your district in his township.

If your district lies in two or more counties, you must show in your report the number of minors and the number of school age living in each county. This is to give your district its share of the distributive fund of that county.

Have the census taken in June, and accurately. This is made the basis for the apportionment of the State School Fund by the County Superintendent.

Items 2 to 29. Make a full report of these items to the treasurer of the township in which your school house is located. Should you have two school houses located in different townships, report in full, only, to the treasurer having charge of the district funds.

High schools. The superintendents or principals of districts maintaining a high school of three years or more and of only two years if recognized by the Department of Public Instruction, both district and township, are to fill out this blank in duplicate, one copy to be left with the clerk of the board and filed by him with the township treasurer and one copy to be forwarded to the county superintendent who shall file the same with the Superintendent of Public Instruction.

City schools. A complete report of all city schools in cities and villages having a population of 1,000 or more, although they may not maintain a high school, should be made by the superintendent with the assistance of the clerk, on this form, in duplicate. One copy should be left with the clerk and filed by him with the township treasurer and one copy forwarded to the County Superintendent of Schools, who shall file the same with the Superintendent of Public Instruction.

In case the superintendent does not oversee the taking of the census as given in Item 1, the clerk of the board should see that it is given before sending the report to the township treasurer.

Fill out all items accurate and complete, and file with the treasurer near July 1st. It must be filed by July 7th. All schedules and statements must be filed at the same time.

F. G. BLAIR, Superintendent.

It will be noted that this information before it reaches the State Superintendent's offices passes through the hands of several responsible officers. In the first place it is filled out by the superintendent of schools with the assistance of the clerk of the board. It is then sent to the

township treasurer, and is by him transmitted to the county superintendent. The county superintendent, after receiving these various blanks, forwards them to the State Superintendent. It is the duty of these various officers to check over these blanks as they come in and see that they are accurate. When a certain body of statistics does not check, the officer who checked it returns it to the one who had the blank preceding him and has it corrected. By this means the blank is checked and corrected by several officers before it becomes a part of the official record of the State Superintendent's office. It thus furnishes a reliable body of material for the basis of statistical calculation. Furthermore, it is an official blank, and the people who fill it out have a definite responsibility for its accuracy.

School officials are required to fill out this blank. On this account the schools make more complete returns than is common in answer to questionnaires. The ordinary questionnaire calls out from 40 to 60 per cent of the possible answers.

The total number of high schools reporting on the blank is 459. To be sure many of them are not accredited by the North Central Association or the State University or any other standardizing agency. Many of them have a very meager teaching force and a small student body, but it was thought best to make a study of practically all of the four-year high schools in the State. In that way we do not have a specialized group.

A second body of records in the State Superintendent's office on which this investigation was based is the approval blank of the Department of Public Instruction, and is in the following form:

STATE OF ILLINOIS DEPARTMENT OF PUBLIC INSTRUCTION.

APPROVAL BLANK.

Application for State Approval of High School from the.....High School at.....  
(To the Principal: Fill out and mail this application blank to the Superintendent of Public Instruction, Springfield, Illinois.)

REPORT FOR SCHOOL YEAR 191...-191..

A. General Information.

1. How is your school governed? (Indicate by underlining): (a) Township board of five members; (b) township board of seven members; (c) board of education; (d) board of directors. (e) If the latter, is it a "consolidated district?".....-2. When was the school established?.....-3. Name of city superintendent.....-4. Name of principal.....-5. Name of secretary of the board.....-6. Is the school accredited by any higher institutions?.....If so, name them.....-7. If not a four-year high school, are your graduates, upon entrance at any four-year high school, given full credit for work done in your school?.....-8. If so, name that school.....-9. Number of pupils, if any, admitted to the ninth grade at the middle of this school year: Boys.....; girls.....-10. Number of pupils, if any, who were graduated at the middle of this school year: Boys.....; girls.....-11. Total enrollment for the year—high school work only:

9th year.		10th year.		11th year.		12th year.		Postgraduates.		Grand total.	
Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.

B. Material equipment.

12. Is there a building or buildings used exclusively by the high school?.....-13. If so, give its estimated value (site and buildings).....-14. Value of equipment, including furniture, library, and apparatus.....-15. If not a separate building used only for high school, how many rooms are used exclusively for high school?..... State facts clearly.....-16. Do you consider the rooms well adapted to their uses as to size, lighting, convenience, etc.?.....-17. Are your rooms provided with means for artificial lighting?..... If so, what light?..... If any exceptions, specify.....-18. How is the building heated? Stove, hot air furnace, steam (direct or indirect), hot water?.....-19. How is it ventilated?.....-20. Describe and locate water closets.....-21. Describe facilities for drinking water.....-22. Describe facilities for towels, etc.....-23. If you have a general assembly room, how many will it

seat?.....-24. Have you a stage and provisions for public exhibitions or dramatic performances? Give particulars.....-25. Is the room equipped also for evening meetings, as to lighting, etc.?.....-26. Is the room used as a study hall?.....-27. Have you a high school library?..... Number of volumes..... Is it used for reference only or also for supplementary work in literature, science, and history? Indicate by underlining. Enlarge upon use of library.....-28. How many laboratories have you and for what science courses are they equipped?.....-29. Are they equipped for demonstration by the teachers only, or for experiment by pupils also? (Indicate by underlining.)-30. How many pupils can work in any laboratory at one time?.....-31. Have you special rooms and equipment for manual training?..... If so, give brief description.....-32. Have you special rooms and equipment for domestic science?..... If so, give brief description.....-33. What other special equipment has the school, such as stereopticon, graphophones, stereoscopes, relief maps, collection of pictures?.....-34. Have you a gymnasium?..... If so, give dimensions and tell something of its equipment.....-35. Have you an athletic field?..... If so, give size and items of interest.....-36. Give information as to control, direction, or supervision of gymnasium or of athletic field.....

C. Organization.

37. Upon what conditions are pupils admitted to the 9th year?.....-38. Number of years in your course?.....-39. Number of weeks in each school year?.....-40. How many units (one school year's daily work in one study or equivalent) is a pupil expected to complete in one year?.....-41. Are all classes conducted with daily recitations?..... Give particulars.....-42. How many teachers are employed in the grade schools from which your pupils are regularly promoted to the high school? (N. B. High schools in city systems or receiving promotions from school systems with more than four grade teachers need not answer this question.).....-43. Teachers employed during the school year:

Name.	What kind of certificate does teacher hold?	Annual salary.	High school classes taught daily.	Subjects taught.	Education—Name institutions and number of years, give degrees (if any), describe special preparation for special work.	Years of teaching experience including present year.		
						Total years.	Total high school experience.	Total in this high school.
Superintendent.....	.....	.....	.....	.....	.....	.....	.....	.....
Principal.....	.....	.....	.....	.....	.....	.....	.....	.....

N. B.—If needed, use supplementary sheet, similarly ruled.

44. How much time of the principal is now given to supervision?..... What do you consider the most helpful form of supervision?.....-45. Does daily program provide for doing laboratory work in two consecutive periods?.....-46. Have you any parents' organizations?..... How constituted?..... What relation to the school authorities?..... What is their chief value?.....

D. Curriculum.

47. How many units (see question 40) are required for graduation?.....-48. How many of these are prescribed?.....-49. How many elective?.....-50. Name the prescribed units?.....-51. What half units, if any, are offered?.....-52. What is the length of recitation periods?.....-53. Laboratory periods?.....-54. Do you have separate "courses," as academic, classical, literary, scientific, commercial, technical, teachers' course, etc.? Name all you have:.....-55. If you do not use the "course" system, describe the plan you have.....-56. Give a complete statement of your curriculum, indicating what studies are offered (i. e., may be taken) in each year, and what studies are prescribed (i. e., must be taken) in each year, and showing what choices are allowed. If you have a short "vocational" or other course, or any "course within a course," give information clearly about that.

If the "course" plan is followed, use the space so as to show the studies for each course separately.

First year.	Second year.	Third year.	Fourth year.

N. B.—Write the prescribed studies at the top of each column before writing the elective studies, and mark them P (prescribed).

Indicate when special instruction or practice is given as in chorus music, public speaking, gymnasium practice, and the like.

E. Miscellaneous.

57. When was your school last visited by a representative of the State Department of Public Instruction?.....-58. By a representative from any State institution of higher education?..... Name it.....-59. Has your school accrediting relations with any other colleges or universities?..... If so, name them.....-60. How many in all have graduated from your school in the last three years?.....-61. How many of these are attending or have attended any advanced institution of learning—college, university, normal school?.....-62. Have you any systematic method or practice of "following up" graduates to determine their record in after life?.....-63. Give information as to what institutions your graduates usually go; make your answers as nearly accurate as you can conveniently.....-64. Give any items of special interest or importance, that may help in forming a fair judgment of your school—in regard to athletics, musical, literary, oratorical or debating programs, periodicals published, contests engaged in, public exhibitions of any kind, honors or prizes or recognition of any kind won by the school or any of its pupils or graduates.....-65. Has your school membership in any interscholastic league or body

for promoting any of these or other activities?..... If so, name them.....—66. What is your practice in the matter of admitting to your school, for advanced standing, those who come from other high schools?.....—67. Do you accept for admission with full credit the graduates of the tenth year from any other schools?..... If so, name them.....—68. Have you any special problems or difficulties in the solution of which you would like to have the assistance of the State Supervisor of High Schools?.....

.....  
Date when this blank was filled in.

.....  
By whom filled.

<p><b>APPROVAL BLANK.</b> APPLICATION OF A HIGH SCHOOL FOR APPROVAL BY DEPARTMENT OF PUBLIC INSTRUCTION.</p>	<p>Name of High School.....</p> <p>Town.....County.....</p> <p>This report for the School Year 191..... 191..... was made out by .....</p> <p>..... Official title. ..... Filed.....191.....</p> <p>..... Superintendent of Public Instruction.</p>
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This blank is in the form of an application of a high school for approval by the Department of Public Instruction. On the basis of the report made out by a high school on this blank the school is accorded or refused recognition by the Department of Public Instruction. Here again we have an official blank filled out by a responsible person and sent to a standardizing agency which has authority affecting the standing of the school in question. In this case there is no provision for checking by various officials as in the first blank. There is a temptation not present in the first blank for the institution to magnify its merits. This exaggeration, however, can not be very great because the official filling out the blank knows that the opportunity for checking is always present in the State Superintendent's office. This blank, like the other, has the merit of covering a large number of schools—444 schools made reports; 94 of these were township high schools; the remainder were city high schools.

At this point it should be noted that all of the high schools organized under township control are referred to as "Township High Schools," although many of them are in fact metropolitan high schools located in relatively large cities. The remainder of the high schools of the State are referred to as "City High Schools," although many of them are country or village schools perhaps having only two or three teachers and a score or more of students.

Information which can be used for comparative purposes was collected by the North Central Association of Colleges and Secondary Schools upon blanks filled out early in the school year of 1913-14. This body of material, covering all of the schools of the North Central Association, was tabulated and interpreted by Mr. George S. Counts, and his results together with the blank were published by the United States Bureau of Education in Bulletin No. 6, Series 1915, under the title,

"A Study of Colleges and Secondary Schools in the North Central Association." For the purposes of this study the original material was made available. It has been worked over in a number of cases into a form which is appropriate for this report but which was not necessary in Mr. Counts' first report. Thirty-nine township high schools in the State of Illinois were included in the material collected by the North Central Association. There are some tables in the present investigation which compare this group of township high schools with the other high schools in the State of Illinois which are members of the North Central Association, and also with all the high schools in the North Central Association territory. The value of this is apparent, as it shows the standing of the township high schools as compared with two well-standardized groups.

There were certain items of information about township high schools which could not be secured from any of the sources enumerated, therefore, a questionnaire was sent out to secure this information. The questionnaire is as follows:

*To Principals of Township High Schools:*

History of the establishment of ..... township high school by ..... principal.

NOTE.—If possible, fill in the answer to every question but do not hesitate to return the blank if it is possible to answer only a portion of the questions.

1. How long did the agitation last between the first proposition of the township high school and its final establishment? .....  
Date of establishment. ....  
What would you say of the opposition to the establishment of the high school? .....
2. Is there any opposition to it as an institution at present? .....  
Would people be likely to vote it down now? .....
3. How many times was the proposition of its establishment defeated, if at all? .....
4. What was the size of the first bond issue? \$. .... Was more than one attempt made before the bond issue was allowed? ..... Date. ....  
Give dates and amounts of succeeding bond issues. ....
5. What was the rate of taxation for educational purposes the first year of the school's history? ..... For building purposes. .... The assessed valuation. ....
6. How many pupils the first year? ..... Teachers. ....
7. How many pupils the *fifth* year? ..... Teachers. ....
8. What high school facilities existed in the township before the organization of the township high school? .....
9. How many pupils at present? ..... Teachers. ....
10. If possible, send any printed historical sketch of your school which may be available. If no sketch is in existence, any historical material pertaining to your school will be greatly appreciated.

Of the pupils coming to your high school what number come from elementary schools of the varying sizes indicated:

	Number of teachers.	Number of pupils.
Single-teacher schools.....	.....	.....
Schools of 2 to 5 teachers.....	.....	.....
Schools of 6 to 10 teachers.....	.....	.....
Schools of over 10 teachers.....	.....	.....
Schools not identified.....	.....	.....
Total high school enrollment.....	.....	.....

NOTE.—The item "Schools Not Identified" is put in to include those pupils (many moving from a distance) the size of whose schools can not be learned.

## EXPLANATION.

In filling out the table shown above, it is desired that all the pupils coming from single-teacher schools be listed together, e. g., there may be two students coming from one, three from another, four from another. The total would be nine. Similarly fill out the other blank spaces. Now there may be two schools having from 2 to 5 teachers and two schools having from 6 to 10 teachers, all graduating 8th grade pupils. List together all the pupils coming from all the schools having from 2 to 5 teachers, no matter where the schools are located, whether in the same district or in several districts.

Return to

PRINCIPAL L. W. SMITH,  
*Thornton Township High School, Harvey, Ill.*

In the questionnaire shown above it will be noted that most of the information called for relates to establishment of township high schools. Other supplementary information is sought as to the growth of these schools and the size of the elementary schools from which the pupils are recruited.

In addition to these documents various incidental types of information were found on file in the State Superintendent's office, and through the helpful cooperation of that office some special information was secured for the purposes of this study. This is particularly true of some of the materials employed in making up the financial tables.

Through the courtesy of Prof. H. A. Hollister of the University of Illinois the Freshman records of over 2,300 students were sent to me. These records I have compiled and discussed in Chapter X of the present study.

So far as possible a uniform method of tabulation has been followed throughout all the chapters. The purpose of this uniformity is to facilitate comparison.

As noted above, the high schools are classed into two general divisions—city high schools and township high schools. These are again classified as to size:

Class A, high schools having 1 to 100 pupils.

Class B, high schools having 101 to 200 pupils.

Class C, high schools having 201 to 300 pupils.

Class D, high schools having 301 to 500 pupils.

Class E, high schools having 501 and over.

In one or two instances a special Class F appears. In such cases Class E must be redefined as referring to schools of 501 to 1,000, and Class F then includes schools of 1,001 and over.

The plan on which nearly all the tables are arranged will be understood through an examination of Table I, which gives the enrollments of the schools included in this report. The table is shown at this point as a forecast of the method of tabulation throughout the study.

The grouping of the schools according to the classes based upon their enrollment is shown at the top of the table as "A," "B," "C." For example, Class A includes those schools having an enrollment of 1-100 pupils; Class B, an enrollment of 101-200, etc. Each class has two vertical columns under it, one for city high schools and the other for township high schools. The information which it is sought to display is



shown at the left of the table. In this case it is the enrollment which is shown in Groups 1-100, 101-200, etc.

In some of the tables in the study the grouping of the schools is shown at the left, and the information which it is sought to display is indicated at the top. These two ways of setting up the tables are made necessary by considerations of space and ease of reading. Otherwise the tables might be made uniform in style throughout. They are uniform in method.

Beginning the column of figures under the caption "Number of Schools," there are 252 city high schools having an enrollment of 1 to 100, there are 46 township high schools having an enrollment of 1 to 100, there are 68 city high schools having an enrollment of 101 to 200, 22 township high schools having an enrollment of 101 to 200, and so forth. Under the proper heading the total enrollment of all of the high schools of the various classes is shown. For example, among schools having an enrollment of 1 to 100 there are 12,908 pupils in the city high schools, there are 2,538 in the township high schools, and going down the column, there are 3,997 students in the city high schools having an enrollment of 301 to 500, there are 4,836 pupils in the township high schools having an enrollment of 301 to 500. The median number of pupils enrolled in each class is shown. In this table also are shown the 1st quartile and the 3d quartile in each of the sub-classes, and the quartile deviation. It will be noted, however, that the median in the township high schools is higher than in the city high schools in every case except in the case of Class C. This is an important fact which should be remembered in connection with many other tables in the study. This fact is shown specifically in the column marked "Median Excess." For example, the median of the township high schools in Class A is in excess of the median of the city high schools by an amount of 13.7 per cent. Now, this is a very important item in certain tables. For example, if it costs more for any particular feature in the township high schools than in the city high schools this increase in the cost of instruction is not significant unless the excess of cost of instruction amounts to more than 13.7 per cent. This has been checked up and its influence on the findings is negligible. This would be true in such considerations as cost of building, cost of operation of the plant, cost of instruction, number of teaching positions, and any other considerations where quantity is the primary consideration. It would have no bearing in a table which indicated the relative efficiency of the various groups of high schools in college, for example.

It is not the purpose in introducing the table at this point to discuss matters of enrollment; it is merely introduced to show the method of tabulation. The enrollment itself is discussed in Chapter IX, which is devoted entirely to that subject.

An explanation of the terms used in the tables is as follows: The median is the middle number in any series of numbers. For example, in Figure 1 the individuals in the series of 25 numbers are represented by small projections at the bottom of the bar, and the median is number 13.

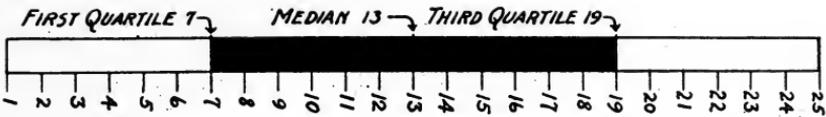


Figure 1.

The 1st quartile is that number in the series which enumerates the first fourth of the series. This is number 7 in the series represented in Figure 1. It is not the quantity one-fourth, but the point one-fourth the way up the series. The third quartile is that number in the series which enumerates three-fourths of the series. It is not the quantity, but the point three-fourths of the way up the series. In the series represented in Figure 1 it is 19.

The median is selected as representing the group most perfectly since there are as many cases above it as below it. For example, if the median cost of buildings in a certain group of schools is \$50,000, that represents the situation better than the average because the average is affected too strongly by a few schools which spend an excessively small or an excessively large amount for this purpose.

The difference between the first and third quartiles is approximately the "middle 50 per cent." For example, as regards investment in school property in township high schools of Class C in Table II the 1st quartile is \$56,000 and the 3d quartile is \$100,000. To state that the "middle 50 per cent" of this group of schools invests from \$56,000 to \$100,000, and their median expenditure is \$75,000, gives a very definite idea of their practice in this regard. In Figure 1 this is shown by the black portion of the column. Seven is the first quartile and 19 the third quartile. The difference between 7 and 19 is approximately the "middle 50 per cent." The "middle 50 per cent" in any factor under discussion provides a very excellent standard of comparison.

The quartile deviation is found by dividing the difference between the first quartile and the third quartile by two. It shows how far the "middle 50 per cent" varies from the median and is a very important measure of uniformity within a group.

## CHAPTER II.

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### THE CONSTITUTION OF THE TOWNSHIP HIGH SCHOOLS.

The first township high school organized in the State of Illinois was that of Princeton in 1867.<sup>1</sup> The city and environs of Princeton were settled largely by old New England stock with all of the traditions and customs of those early states. Princeton still retained the town meeting form of community management. In addition to this it had the tradition that a secondary school, in fact any school, was a community matter. There was no academy or secondary school of any kind in their midst, and the first proposal for the establishment of a high school which would serve community needs came from the progressive editor of the Bureau County Republican, John W. Bailey, in an editorial published on March 1, 1866, entitled "The School Question." The editorial commanded attention immediately in the community, and the following week a contributed article by John H. Bryant (the poet's brother) appeared under date of March 8, 1866. Bryant supported very emphatically the editorial of the preceding week and said, "I like the idea of a high school for the whole township." Toward the close of his article he assumed a position with reference to it which should be that of every American citizen when questions of education are involved. He said, "I have no children to send to such a school, but I feel nevertheless that I have an interest in and advantage to gain by improvements of this kind." Since the proposal was in the nature of an innovation, the advice of the State Superintendent, Newton Bateman, was sought. He was broadminded and foresighted on this subject. He sent a letter approving the proposal and encouraged the people of Princeton by saying, "It will give you an admirable school system, and you will soon have, I am confident, the warm support of all the friends of education in the township." A town meeting was held. It will be understood that this town meeting was made up of the citizens of Princeton and its vicinity and was dominated by such men as the editor of the Bureau County Republican, the two brothers of William Cullen Bryant, the Lovejoys, and others of like educational ideals and refinement. This town meeting passed a resolution, presented by Mr. D. G. Paddock, as follows:

"WHEREAS, It has become evident that there exists a necessity for superior facilities for education in this town; and,

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<sup>1</sup> Facts regarding the organization of the Princeton Township High School herein reported were furnished in an article in *School and Home Education* in February, 1916, entitled, "The First Township High School in Illinois." This was supplemented by additional information provided by Mr. H. S. Magill, superintendent of schools of Springfield, Ill., formerly principal of Princeton Township High School, and by Mr. W. R. Spurrier, at present principal of that high school.

"WHEREAS, Hon. Newton Bateman, Superintendent of Public Instruction, has decided that the trustees of each township have power to consolidate the districts of the township for high school purposes; therefore,

*Resolved*, That the legal voters of the township are in favor of the establishment of a high school in the township of Princeton at as early a date as the same may be obtained; and that it is the sense of the town meeting that the trustees of schools of this township be instructed to take immediate steps to establish such high school and to devise and carry out the appropriate legal measures necessary for such purpose.

*Resolved*, That a committee of seven be appointed for the purpose of obtaining an act of the legislators of the State to render effectual the object expressed in the above resolution."

This resolution was carried unanimously, and the following persons were appointed on the committee: Rev. F. F. Bascom, J. T. Thompson, J. Chritzman, S. G. Paddock, W. C. Stacey, J. H. Bryant, J. V. Thompson.

In due time the township voted for trustees; on the selection of a proper site, and for the authorization of borrowing the necessary money with which to build a suitable building. The number of votes cast was 546, Bascom, Bryant and Chritzman being chosen almost unanimously as trustees; the site was selected; the loan authorized. The Illinois Legislature at the next session in February, 1867, passed the law legalizing such schools. The text of this law or rather special charter for the Princeton Township High School is printed as Appendix A. After this law was passed, the necessary loan was secured in the immediate neighborhood, and the first township high school was opened in Princeton in September, 1867.

Henry L. Boltwood was called from Griggsville, Ill., to the principalship of the new school—a most fortunate choice. Few, if any, men in Illinois have exerted a wider influence in secondary education than the beloved principal of Princeton. As new township high schools were organized he was called to initiate their work. He was successively principal of Princeton, Ottawa and Evanston. Streator was the second township high school to be organized. He did not organize Streator. He was thus principal of three of the first four township high schools in the State.

A few sentences taken from the Princeton Catalogue of 1875 are illustrative of the conditions in that school in its early years. "The school building complete cost about \$60,000, and will accommodate 500 pupils. The grounds, containing about nine acres, are tastefully laid out, affording a large playground in the rear and an ornamental ground in front.

"The school was opened in September, 1867, under charge of the present principal, assisted by three ladies. At the beginning 138 pupils were admitted, 9 of whom were from abroad. Two classes were organized, a Junior and a Second Junior. The average age of the pupils admitted was 16½ years. During the year 174 different pupils were enrolled. The tuition received was \$250.00."

"The plan of work requires three full recitations daily. An hour is usually allotted to each recitation."

The organization of the school in Princeton and its immediate success resulted in a general law authorizing the organization of township high schools. This general law was enacted in 1872 and is printed herewith as Appendix B.

The Township High School Act passed through the same period of amendment as the remainder of the school laws of the State until the General Revision of 1909.

This general township high school law is incorporated in that codification (1909) of the school laws in sections 85 to 97 inclusive. During the period from 1872 to 1909 the amendments made to the Township High School Law were often for the purpose of giving wider latitude in the organization of high school districts. For example, the provision that a township high school district may be composed of two or more school districts is a case in point. There are several others of similar character.

Another township high school law was passed in 1905, because of the fact that the general law provided that high schools could be organized only under certain conditions, and it was for the purpose of making opportunity for the organizing of township high schools more elastic that it was enacted. Under this law, however, only two township high schools were organized, namely, Waukegan and Collinsville. It will be seen by an examination of the law itself, which is published as Appendix C, that its application is also limited.

In response to a widespread demand for still more elasticity in the formation of township high school districts the law of 1911 was passed. Because of faulty legal technique the law of 1911 was declared unconstitutional by the State Supreme Court in October, 1916. The court legalized the high schools already organized under it by declaring that they would be classed as de facto high schools. It is expected that at the present session of the Legislature a law will be passed including all the remaining territory of the State in an inclusive Township High School Law.

It will thus be seen that there are four pieces of legislation authorizing township high schools in Illinois: The Princeton Charter of 1867; the General Township High School Law of 1872, which was from time to time amended and finally included in the General School Law of 1909; the law of 1905, and the law of 1911. These four pieces of legislation are reproduced in the appendices.

The several township high school laws are very similar in their provisions for the establishment of a township high school as distinguished from the operation of such a school after its establishment. In every case they provide that a petition for the organization of such a school must be signed by fifty legal voters in the territory which is to be included in the organization. In the general law this petition is made to the township treasurer, and such a petition is presented to the school trustees who are required to call an election to determine whether the township high school shall be organized. In the law of 1905 and also in that of 1911 the petition is made out to the county superintendent, and he orders the

trustees of schools to conduct this election. For detailed information as to this organization see the laws themselves in the appendices.

As pointed out in an earlier paragraph, there are four different types of organization possible under the four laws. Under the provisions of the General Township High School Law the board of education consists of five members, elected for a period of three years each. The board elects its president from its own number, and may elect a secretary from outside its membership. Under the provisions of the act of 1911 the board is composed of six members and a president. The president is elected annually, and the members for a period of three years each. Under the act of 1905 the membership of the board of education is determined by the proportion of the population in the various districts under twenty-one years of age. The members of this high school board are elected by the boards of education or boards of directors in the subsidiary school districts. The board organizes by electing one of its own members president, and it may elect a treasurer and also a clerk from outside its own membership.

As to the powers and duties of the township high school boards of education under these various acts, the provisions are very general in their nature. The general law provides that the board of education shall have the power of school directors, the law of 1911 that they shall have the power and duties of boards of education. It is somewhat remarkable that the one law provides that the schools under it, some of them having over 1,000 students each and located in large cities, are to be governed by the same regulations as one-room country schools, and that the other makes applicable to schools under it the rules devised for the government of large city school systems. The law of 1905 does not make a definite statement as to the powers and duties of boards of education but leaves the matter for interpretation in the light of the General School Law. All of these laws, except that of 1905, give the township high school boards of education the same authority to tax the districts under their jurisdiction as other school boards. This taxing authority comes from section 189 of the General School Law which provides that: "The directors or the board of education and the authorities of such village or city, as the case may be, shall be authorized to levy a tax annually upon all the taxable property of the district, village or city, not to exceed as hereinafter stated  $1\frac{1}{2}$  per cent for educational and  $1\frac{1}{2}$  per cent for building purposes upon the valuation to be ascertained by the last assessment of city and county taxes." On this point the law of 1905 provides that the township high schools which are organized under this act shall have authority to levy one-half the amount determined upon for the other township high schools by the General School Law.

In this study we are very definitely interested in the fact that the township high school laws provide for school units of larger area than those for elementary schools. By an examination of the General Township High School Law, specifically sections 86, 87, 88, 89, 90 and 93, we find that this law authorizes eight different kinds of high school districts:

1. A school township.
2. Two or more adjoining townships.
3. Two or more adjoining school districts.

4. Parts of adjoining townships.

5. The remainder of a township part of which has been organized into a township high school.

6. A school district having a population of 2,000 or more.

7. A city and a township.

8. Part of a school township divided by a navigable stream.

As noted above, this general high school act was not elastic enough to provide for all communities, hence, the act of 1911 was passed so that high school districts might conform to the natural boundaries made necessary by the distribution of population and by the conditions of transportation. The act of 1911 authorizes two classes of high schools:

1. A school township that has within its borders a school district with a population of 1,000 or more and not exceeding 100,000 inhabitants, as provided by section 1.

2. Any contiguous and compact territory whether in the same or different townships, as provided by section 6.

It will be seen that section 6 provides very specifically for a high school district based upon the needs of the community and the natural limitations imposed upon it by its geographical situation and by the conditions of transportation. As a matter of fact, in the organization of high schools under this act such territory has usually had in it a city or village as a pivot of the community. There are, however, a number of rural districts.

The territorial organization is also affected by the conditions under which the township high school district when once organized may annex territory. Under the provisions of the general law additional territory may be annexed provided that first 5 per cent of the legal voters in the township high school district and also 5 per cent of the legal voters in the territory proposed for annexation petition for such annexation. Upon the filing of such a petition it is the duty of the township treasurer of the respective territories involved to bring the matter before the school trustees, who will call an election to vote for or against such annexation. Both the high school district and the territory to be annexed must vote in favor of such annexation before the annexation becomes valid.

In the act of 1905 annexation may be accomplished by concurrent resolution of the township high school board and the boards of the school districts proposed to be annexed. This joint resolution, however, must be ratified by the voters in the high school district and also in the district proposed to be annexed. Exactly the same provisions are incorporated in the act of 1911.

As to the rapidity with which high schools have been organized under these various acts, it is in point to quote from a letter written by J. C. Thompson, attorney for the State Department of Public Instruction, under date of April 25, 1916, as follows:

"There are now 265 township high school districts, divided as follows:	
Special Charter (Princeton) .....	1
General School Law .....	71
Act of 1905 .....	2
Act of 1911 .....	191
Total .....	265

"The question 'to establish' is now pending in more than 40 communities.

"The first township high school was established by virtue of a special charter at Princeton in 1867. The first township high school, according to the General School Law, was established at Streator in 1875. The first township high school was established, pursuant to the act of 1905, at Waukegan in 1905. The first township high school was established at Waynesville, in consequence of the act of 1911, in 1911.

"The high school movement has appropriated a number of smaller academies and seminaries. The Waynesville Township High School is conducted in the Waynesville Academy. The Westfield Township High School is conducted in the Westfield College. The Toulon Township High School is conducted in the Toulon Academy.

"Township high schools are now considered community high schools. The districts are formed of contiguous and compact territory, with a city or village as the axis of the district. The high school usually respond to the wishes and convenience of the several communities. At Ashley and East Lynn the high school buildings have been constructed jointly with the common school district. At Thebes, the common school district owns the site and first story, the high school owning and occupying the second story for high school purposes. At Cabery and Roberts the buildings are erected together, or rather, side by side, forming one structure. A number of the high school districts rent suitable rooms for high school purposes."

The chief characteristics resulting from the legislation above reviewed are as follows: In the first place, the board of education, as in all cases except the two schools under the provisions of the act of 1905, is composed of a small number of men—either five or seven members. These boards of education have their attention concentrated entirely upon the problems of secondary education. They are not distracted from their task by considerations which must influence boards who survey the whole field of education. Furthermore, their funds can be concentrated on the single problem of secondary education, since an increased rate of taxation is provided for the benefit of high schools coming under this law. The ordinary school district in the State of Illinois and in other states is provided with a definite rate of taxation for such districts whether or not they make full provision for the needs of secondary education. When the high school and the elementary school are separated under the provisions of the township high school acts, the elementary school districts have authority to levy the full rate of taxation which any district may levy, and use such funds. In addition to this the township high schools which cover the same territory have authority to levy a tax equal in amount to that which may be collected by any school districts in the State. The total effects of these provisions in taxation are to double the funds available for educational purposes and to centralize the expenditure of the funds provided by the township high school upon the development of high schools.

In view of the fact that secondary education in the last half century, particularly in the last decade, has expanded enormously in the number of pupils involved and in the scope of the instruction provided, as well as in the variety and volume of equipment, questions of revenue have become acute. In the ordinary district in Illinois revenues are exactly the same as those provided when the school system was immeasurably simpler. Under the township high school acts districts can secure enough additional school money to provide adequately for the high schools. In

addition to providing thus for separate funds for elementary schools and high schools, the township high school forms a new territorial unit of large area. Thus a greater assessed valuation is drawn upon for the support of a single school. All the advantages of consolidation are thus secured.

Finally the township high school acts give an opportunity through the provision for the larger unit for a concentration of the students who are accessible to any center of population. The advantages of this larger organization are numerous. Better equipment can be had; better teachers can be employed; and the whole community can be served through the organization of a community unit.

There are also some marked disadvantages resulting from this type of school organization which should be noted. It breaks in two what should be a single system. This double control finds its weakness not so much in friction between the two parts, since they work quite as harmoniously as in cities where the elementary and high schools are parts of the same system, but in the difficulty, (1) of articulating the courses of study, (2) of unifying the supervision of the progress of pupils through the schools, and (3) of eliminating waste in providing equipment and supplies.

Care should be taken at this point to note that the double control is not competition, since the division is horizontal and not vertical. The two systems when operating under this plan do not parallel each other's work.

However, the advantages mentioned are so positive that the difficulties though real have been minimized somewhat in the administration of this group of schools.

The township high school type of organization with its advantages and disadvantages presents a very desirable phase in the evolution of education in Illinois. A more complete discussion of these matters is taken up in a later chapter.

Experience has proved as a result of these various enactments that no artificial political boundary lines should govern the metes and bounds of a township high school district. They should be determined entirely by the distribution of population, by the configuration of local geography and by the conditions of transportation. It is this feature of the township high school together with its added opportunity for school revenue which should be insisted upon and expanded. This matter will be discussed in more detail in a later chapter.

## CHAPTER III.

### THE PLANT.

#### SITES AND BUILDINGS.

In recent years the high school building has become in many communities the object of great civic pride. This is due to the fact that more and more the American people are devoting themselves to the highest ideals of education. It is also due to the fact that upon no other institution is it quite so fitting to bestow its complete affection. Nearly every other institution appeals to a part of the community and not to all of it. Because of this fact the people often vote taxation upon themselves to embellish and decorate the building and grounds. Further than this, the rapid development of educational demands and the great variation in the kinds of work done in the high school have made necessary a large increase in the expenditures upon the building and site of a modern high school. For these reasons a building movement represents in a sense a crisis in a community. It is the subject of long and vigorous discussion. Sometimes the agitation results in bitterness and in contention. Disagreements seldom come from a discussion of the advisability of having a high school, but they arise out of differences of opinion as to its extent and its cost. The reason for this is that there are no adequate standards which will exactly determine the amount of money that should be expended for a high school of a given size. There are not even comparative standards published in such form that they might be available to high school districts entering upon this greatest enterprise which it may undertake. For these reasons it is all the more necessary that a study should be made of the high school plants that are now existing, with an idea of discovering their extent but with a distinct purpose to have definite information in regard to their cost.

The school corporation about to undertake a new high school needs all the information it can secure in setting the size of its bond issue, in determining the amounts that it will spend, in deciding upon the character of the building and upon the extent and quality of its equipment. It is not sufficient to estimate the needs of a community in this respect by pointing to the procedure followed in another community, because of the fact that another community may have different needs, and different conditions may determine its policy. Furthermore the cost of construction in one community is different from that in another. The board of education and its responsible agents in investigating this proposition should not accept the statements of architects, contractors and others who are interested in the construction of the building itself and in the selection of a site. These questions should be determined, as indicated above, upon a thorough study of the local situation and an accurate

comparison of the needs of the community in question with the general practices found in communities covering a wide territory. For example, Community A possesses a high school having from 200 to 300 pupils enrolled, and it has constructed a high school costing we will say \$100,000. Community B is another community having a high school of similar size, and has constructed a high school costing \$50,000. Which procedure is correct? Has Community A spent too much or has Community B spent too little? It is obviously bad practice to follow the example of any particular community. If possible, it should be determined what is the typical amount of money expended in schools having the enrollment given. Even when the typical expenditure for schools of a given size has been determined, other factors must be studied. For example, in the State of Illinois the cost of construction in the northern part of the State is much higher than in the southern part of the State. The cost of a high school plant in an industrial community where, large demands are made for vocational education, necessarily must be much higher than in a community which has the traditional point of view. If a school expects to give wide latitude in electives this again legitimately increases the cost of construction. If the community expects to prepare its students for later technical work of various kinds, this is another added cost. In a word, the policy which is here advocated is that every building enterprise should be preceded by a careful investigation of the present and prospective needs of the community. This should include as careful an estimate as possible as to the probable growth of the school. This estimate of the probable growth must be based not only upon the natural expectation in the increase of population but also upon the present tendency in secondary education for high schools to grow much more rapidly in proportion to the population than heretofore. It should be noted in this connection also that the mere fact of the construction of a modern high school creates an added demand for the work which it makes possible. It is the experience of many communities that as soon as a well appointed high school building is constructed it is used to capacity. In fact, there has been throughout the country in recent years deplorable shortsightedness in the construction of high school buildings that are almost never constructed large enough. The result is that scores of plants all over the country have been obliged in recent years to make additions which are not symmetrical with previous construction. It is the purpose of the present chapter to reveal the situation in Illinois as to the capital investments in high school plants, with considerable attention to a comparison of the expenditures made by city high schools as compared with township high schools, as outlined in Chapter I.

In Table II is exhibited the amount of money invested in sites and buildings in 156 high schools in the State of Illinois.

In this table the number of high schools having investment of various amounts are grouped. The first group shows those high schools expending \$1,000 to \$5,000, the second group those from \$5,001 to \$10,000, and so on. Reading down the left hand side of the table in the first vertical column, the sizes of the various classes of high schools are indicated—Class A having an enrollment of 1 to 100; Class B, 101 to



200, etc., as shown in the table. The next vertical column shows which of the groups of high schools are tabulated, namely, city high schools and township high schools. The entire number of high schools, both city high schools and township high schools, is shown in the third vertical column. For instance, in Class A there are 19 city high schools and 29 township high schools, making a total of 48 high schools altogether in Class A. Reading the table from right to left there are 5 city high schools of Class A having an investment of \$1,000 to \$5,000, 6 having an investment of \$5,001 to \$10,000, and so forth. There are 2 township high schools of Class A having an investment of \$1,000 to \$5,000, 6 township high schools having an investment of \$5,001 to \$10,000, and so forth. There is a total of 7 high schools in Class A having an investment of \$1,000 to \$5,000, 12 having an investment of \$5,001 to \$10,000, and so forth. Going to the bottom of the table it is noted that there is a total of 81 city high schools and 75 township high schools, making a total of 156 high schools included in this table.

The question may be raised at once, how is it possible even for a small high school to have so small an investment in a building as \$5,000? This is due to the fact that in many schools in the State of Illinois the high school is conducted in a certain portion of a building designed primarily for elementary school purposes, and this capital investment in the high school building in Classes A and B refers to that proportion of the investment which is used for high school purposes alone. By referring to Table XI it will be noticed that in city high schools of Class A 89.4 per cent of the high schools have no building of their own but depend upon the elementary schools for their quarters. A smaller per cent of the township high schools in Class A (38.3) are similarly dependent upon the elementary schools. In Class B 80.8 per cent of the high schools are dependent upon the elementary schools for room, and 15 per cent of the township high schools in this class are similarly dependent upon the elementary schools. In Class C only 19 per cent of all the high schools, both city and township, are so dependent. In every case in Class D and E the high schools have their own buildings.

By referring to the horizontal column marked "total" in Class A, Table XXIII, it will be seen that in Class A a median of 3 rooms is set apart for the use of the high school. In Class B a median of 6 rooms is set aside for the use of the high school. These facts account for the few cases of small investment in high school buildings and grounds shown particularly in Classes A and B.

Looking at the other end of the table it will be noticed that some high schools have plants costing large sums of money. For example, there are 6 city high schools and 3 township high schools having an investment in sites and buildings of over \$250,000 each. There are 6 high schools in the State having an investment of between \$200,000 and \$250,000. This table is so constructed as to show the average investment in city high schools and in township high schools in each of the various sizes of high schools. It also shows the medium investment. In addition to this, the first quartile, the third quartile and the quartile deviation are also shown. The purpose of this is that anyone who is interested

in looking into the capital investment in any group of high schools may discover the characteristic situation. For example, it will be noted that in high schools having an enrollment of between 200 and 300 the median investment in sites and buildings is \$60,000; the first quartile is \$45,000; the third quartile is \$93,500; the quartile deviation is \$24,250. If a community is on the eve of a new construction and if it is a school of this size, these facts will be very significant, and they should be interpreted in the light of suggestions made above, that is, geographical location of the community as regards its nearness to a metropolitan district, which would increase its cost, since considerations of vocational education and wide electives would have a bearing. This table shows that 50 per cent of the city high schools of this grade invest from \$45,000 to \$93,500 with a median investment of \$60,000. It is fair to assume that if a school expends less than \$45,000, it is probably not providing adequate facilities. If it is expending over \$93,500, it is providing for a future, which is perfectly legitimate, or it is providing unusually good facilities in the way of adequate preparation for vocational and special education. The fact is that about the best range for expenditure for a progressive high school, and yet one that wants to be conservative, is that limited by the median and the third quartile, namely, \$60,000 to \$93,500.

The facts embodied in Table II are displayed in graphic form in Figure 2.

On the left hand side of this figure is a scale beginning with \$25,000 and extending to \$650,000. At the bottom of the graph the schools of various sizes are indicated, that is 1 to 100, 101 to 200, and so forth.

Immediately above each of these groups bars are drawn to represent the range of expenditure from the first quartile to the third quartile, in other words, approximately 50 per cent of the cases. The hollow bar represents the city high schools, the solid bar represents the township high schools. On each bar is marked the median. The amount of money which the median indicates is shown in the scale at the right of the figure. The table shows and the graph indicates in a very clear fashion the increased cost for sites and buildings as the size of the school increases. For example, a school having an enrollment of from 200 to 300 pupils typically expends twice as much on its buildings and grounds as a school having from 100 to 200 pupils—\$60,000 in the former case and \$30,000 in the latter case. This median expenditure goes on up and is \$100,000 in the case of city high schools in Class D and \$227,795 in the case of Class E.

We started out in this discussion with a distinct aim of discovering the relative situation of township high schools in these various factors as compared to city high schools. In this table and in this graph it is very clear that the township high schools have much larger sums of money invested than the city high schools. The median expenditure of the township high school is usually 25 per cent greater than the city high school. The quartile deviation in the case of township high schools is in every case larger than in the case of city high schools. This is indicative of the fact that the township high schools vary in their practice to a much greater extent in the respect of buildings and grounds than the

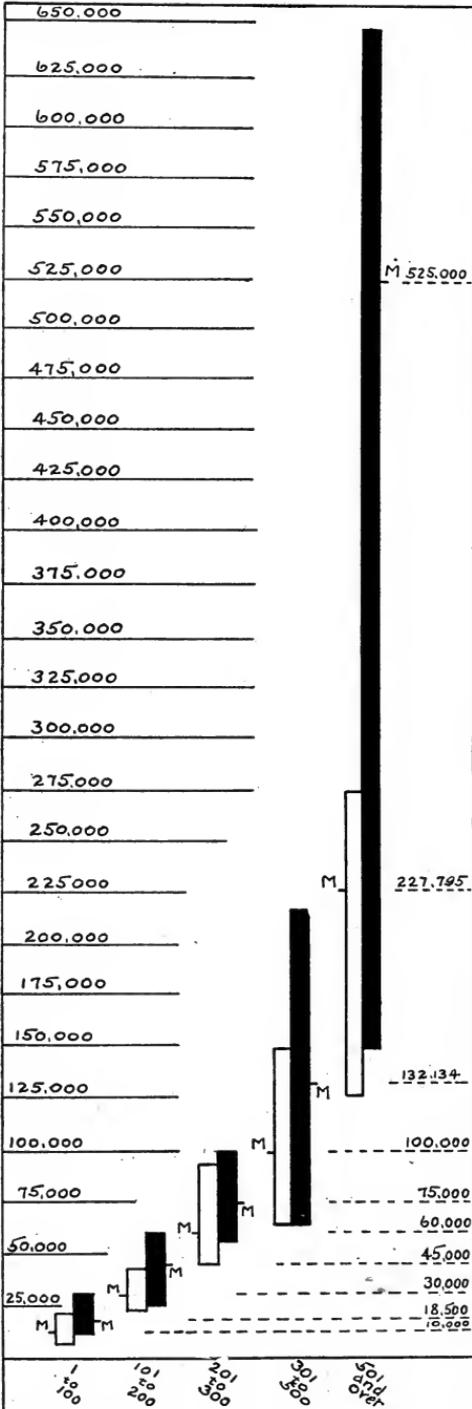


Fig. 2.—Value of School Property—Sites and Buildings. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range of investment from the first quartile to the third quartile; the hollow bars represent the city high schools and the solid bars the township high schools. M represents the median investment in each case. An equalized scale of the amount invested is shown at the left and a scale of the medians at the right.

city high schools. It indicates a tendency to build for their own needs more independently than to take their plans from the practices in other communities. This matter of the quartile deviation should be followed very carefully throughout the remainder of this investigation, as it will be found to be a distinct characteristic of township high schools. The larger investments in the school plant on the part of township high schools, as shown in this table and graph, are seen in even greater relief in Classes B, C and D, because of the fact that in these three classes the number of schools in each group is relatively the same but the amount of money is markedly more in the case of township high schools as compared with city high schools. Throughout this study the median is used largely as the measure of central tendency. Very often, as in this case also, the average is shown, and an examination of the average reveals exactly the same facts.

Table III is constructed in exactly the same fashion as Table II except that the source for the material comes from the Approval Blank instead of from Form 2.

It will be noted that in the smaller schools the figures are larger, the medians are larger, the quartiles are larger in general; averages are larger. This is due to the fact that the approval blank is sent in by high school principals and superintendents for the purpose of securing recognition for their high schools. This fact produces a tendency in the case of smaller schools in the mind of the reporting officer to magnify the amount of money invested in the school. It will be noted that in the larger schools the amounts of money reported are no larger than in Form 2, and in some cases smaller, because of the fact that in these larger schools the reporting officer has no motive to magnify the sums of money invested, as his accrediting relations are in no case endangered. Since the information coming from Form 2 is checked in various official channels by the township treasurer and by the county superintendent before it reaches the State Superintendent, the figures are probably very much more accurate. The point in introducing Table III is that it is another source of information, and, though it has this variation due to the motive suggested, it reveals exactly the same situation as was disclosed in Table II. In other words, in every respect it is a confirmation of the conclusions reached in the discussion of Table II.

### EQUIPMENT.

The plant is incomplete without adequate equipment. Sometimes a community exhausts its financial resources in providing a plant and has not had the foresight to plan for equipment. Sometimes a bond issue which is sold for the definite purpose of providing a plant and equipment is exhausted and has to be replenished from current taxation in the construction of a building and the purchase of a site, whereas the school suffers in efficiency when definite provisions are not made for the purchase of appropriate equipment.

By equipment we mean furniture, laboratory apparatus and such other material as becomes a permanent part of the operation of the school. We do not have reference to supplies such as chalk, paper, stock for

TABLE III—VALUE OF SITES AND BUILDINGS—(APPROVAL BLANK).

	Number of schools.	\$1,000-\$5,000	\$5,001-\$10,000	\$10,001-\$15,000	\$15,001-\$20,000	\$20,001-\$25,000	\$25,001-\$30,000	\$30,001-\$35,000	\$35,001-\$40,000	\$40,001-\$45,000	\$45,001-\$50,000	\$50,001-\$75,000	\$75,001-\$100,000	\$100,001-\$150,000	\$150,001-\$200,000	\$200,001-\$250,000	\$250,000-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A	15	1	2	3	3	3	1	1	1	1	1	1	1	1	1	1	1	\$297,500	\$19,833.33	\$17,000	\$13,500	\$25,000	\$ 5,750
1-100	21	1	5	1	2	1	2	2	2	2	1	3	1	1	1	1	1	570,776	27,179.8	28,000	9,000	40,000	15,500
	36	2	7	4	5	4	4	3	3	3	1	3	1	1	1	1	1	\$888,276					
B	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	495,000	41,250	40,000	36,000	48,000	6,000
101-200	16	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	585,500	36,593	35,500	30,000	46,250	8,125
	28	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	\$1,080,500					
C	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	279,000	39,857	40,000	20,000	52,000	16,000
201-300	10	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	837,000	85,700	60,000	42,500	137,500	47,500
	17	1	1	1	1	1	1	3	3	3	3	2	2	2	2	2	2	\$1,136,000					
D	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	635,874	79,484	75,000	74,037	83,000	4,031.5
301-500	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,467,134	133,375	132,134	50,000	200,000	75,000
	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$2,103,008					
E	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2,506,872	179,065	117,500	98,500	265,000	83,250
501-Over	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,225,000	408,333	500,000	150,000	575,000	212,500
	17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$3,731,872					
Total City H. S.	56	1	3	3	5	2	2	1	9	3	4	6	7	5	1	2	3	4,214,246					
Total Twp. H. S.	61	1	6	1	2	5	6	4	6	3	8	6	2	6	3	2	2	4,705,410					
Grand total	117	2	9	4	7	7	8	5	15	3	12	12	9	11	4	4	5	\$8,919,656					

domestic science and manual training, or other articles which are consumed in the using. We refer to those items which become a permanent feature of the school and are used year after year. The amount of money invested in permanent equipment in all tax-supported high schools in the State of Illinois is reported to the State Department in Form 2, Section B of Question 18. This information is tabulated in Table IV.

Here it is shown that 327 city high schools and 96 township high schools, making a total of 423, have reported this item. The amount of money expended for equipment is arranged in groups—\$100 to \$250, \$251 to \$500, as shown at the top of the table. The left hand portion of the table is constructed in exactly the same manner as Table III. It will be seen in this table that there are 52 city high schools of Class A which expend from \$100 to \$250, whereas only 3 township high schools of this class have expended an amount so small. Note that in Class B no township high school has expended less than \$1,000 for equipment. Three city high schools and 5 township high schools have expended over \$30,000 for equipment. Various other interesting comparisons may be made by a study of the table in detail. The facts revealed in Table IV are shown in graphic form in Figure 3. Figure 3 is constructed in exactly the same fashion as Figure 2.

By an examination of the table and by referring to the graph it is again very evident that the expenditures for equipment increase very rapidly as the size of the school increases. This increase is almost proportional to the increase in the size of the school until we reach Class D (that is, in schools above 300 enrollment) when the increase in expenditure proceeds much more rapidly than the increase in enrollment. We find a situation here exactly similar to that in regard to investment in sites and buildings, that is, that the township high schools have much larger sums of money invested than the city high schools. Here again the quartile deviation is larger in the case of township high schools in every case, except Class C, than in the city high schools. This again shows variation in practice on the part of the township high school and a tendency to depart from the custom of schools of their corresponding sizes.

The information shown in Table V is compiled from the Approval Blank.

In this table as in Table III the amounts indicated are larger in the case of the smaller schools, that is, the medians, quartiles and averages are all larger. This again is ascribed to the tendency on the part of the reporting officer to magnify the amounts of money invested in his equipment, since it is necessary for him to make as good a showing as possible to secure recognition. I wish to say in this connection that this tendency is probably due to no intentional purpose of exaggeration. Here, as in the first case, larger schools do not magnify amounts of money involved; in fact, in some cases the sums are reported smaller. However, the table in general confirms the conclusions derived from a consideration of Table IV—that is, that the expenditures increase rapidly with the increase in enrollment, that the larger sums of money are spent by the township high schools for equipment, the quartile deviation is larger in the case of township high schools than in city high schools in every case.

TABLE IV—CAPITAL INVESTMENT EQUIPMENT—(FORM 2, No. 18).

	Number of schools.	\$100-\$250	\$251-500	\$501-\$750	\$751-\$1,000	\$1,001-\$2,000	\$2,001-\$3,000	\$3,001-\$4,000	\$4,001-\$5,000	\$5,001-\$10,000	\$10,001-\$15,000	\$15,001-\$20,000	\$20,001-\$25,000	\$25,001-\$30,000	\$30,001-\$35,000	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A																					
1-100	223	52	70	19	31	37	10	3	1	1	1	1	1	1	1	\$177,111	\$ 794.22	\$ 500	\$ 300	\$ 1,000	\$ 350
	45	3	8	4	2	19	4	1	3	1	1	1	1	1	1	75,408	1,675.73	1,500	525	2,000	737
	268	55	78	23	33	56	14	4	4	4	4	4	4	4	4	\$252,519					
B																					
101-200	66	2	4	5	9	22	8	7	3	5	1	1	1	1	1	164,091	2,846.23	1,550	1,000	3,000	1,000
	22					5	5	4		5	3					107,669	4,894.05	3,375	2,500	6,650	2,075
	88	2	4	5	9	27	13	11	3	10	4	4	4	4	4	\$271,700					
C																					
201-300	11					2	3	2	1	2	2	1	1	1	1	57,840	5,218.18	3,740	2,500	6,000	1,750
	13					1	2	2	3	3	1	1	1	1	1	82,647	6,357.46	5,000	3,300	6,250	1,475
	24					3	5	4	4	5	1	1	1	1	1	\$140,487					
D																					
301-500	11					1	1		3	1	3	1	1	1	1	123,675	11,243.18	9,000	4,500	15,000	5,350
	13								1	1	1	1	2	5	3	317,246	24,403.54	21,000	16,400	30,000	6,800
	24					1	1		4	2	4	3	5	4	4	440,921					
E																					
501-Over	16					1	1			5	2	1	1	4	2	294,631	18,414.44	13,514	7,500	26,261	9,380
	3										1			2	95,500	31,833.33	34,000	11,500	50,000	19,250	
	19					1	1			5	3	1	1	4	4	\$390,131					
	327	54	74	24	42	63	21	12	8	13	6	3	3	4	3	817,348					
	96	3	8	4	2	25	11	7	7	10	6	2	6	5	5	678,470					
	423	57	82	28	44	88	32	19	15	23	12	5	6	4	8	\$1,495,818	\$3,536				

Fig. 3.—Capital Investment—Equipment. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range of investment from the first quartile to the third quartile; the hollow bars represent the city high schools and the solid bars the township high schools. M represents the median investment in each case. An equalized scale of the amounts invested is shown at the left and a scale of the medians at the right.

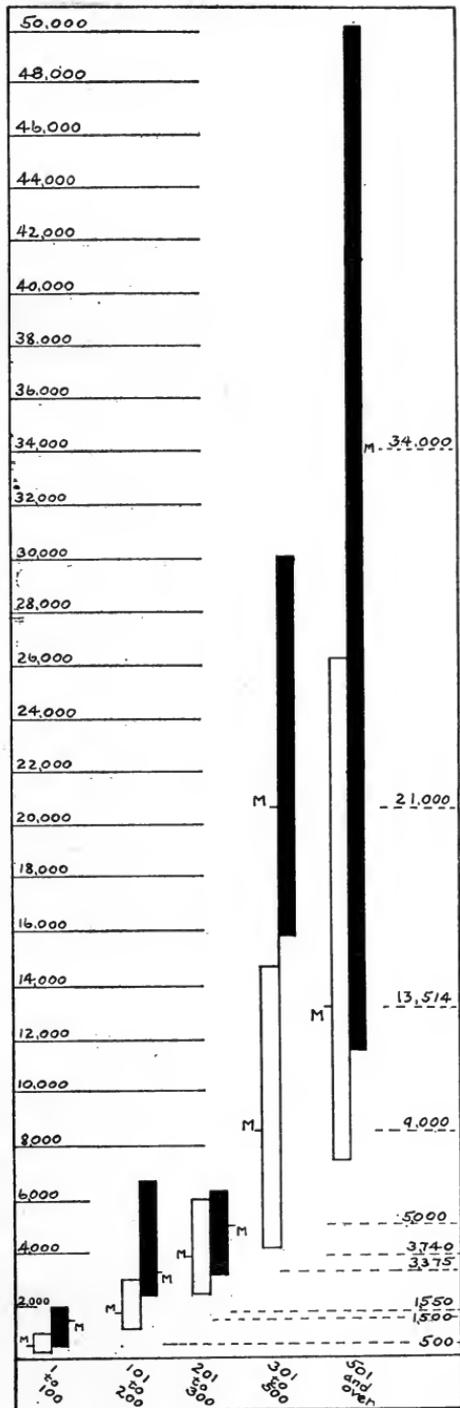


TABLE V—CAPITAL INVESTMENT—EQUIPMENT—(APPROVAL BLANK).

	Number of schools.	\$100-\$250	\$251-\$500	\$501-\$750	\$751-\$1,000	\$1,001-\$2,000	\$2,001-\$3,000	\$3,001-\$4,000	\$4,001-\$5,000	\$5,001-\$10,000	\$10,001-\$15,000	\$15,001-\$20,000	\$20,001-\$25,000	\$25,001-\$30,000	\$30,001-\$35,000	\$35,001-\$40,000	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation
A																						
1-100	113	6	17	16	23	36	7	5	1	1	1	1	1	1	1	1	\$155,547	\$ 1,376	\$ 1,000	\$ 600	\$ 1,600	\$ 500
	36	1	5	5	9	8	7	2	1	3	1	1	1	1	1	1	76,408	2,133	1,500	950	3,000	1,025
	149	7	22	16	32	44	14	7	2	4	1	1	1	1	1	1	\$231,955					
B																						
101-200	33				3	12	5	5	6	2	2	1	1	1	1	1	96,851	2,985	2,500	1,500	4,075	1,287½
	18				1	3	1	5	3	4	1	1	1	1	1	1	91,500	5,083	3,750	2,500	7,000	2,250
	51				4	15	6	10	9	6	1	1	1	1	1	1	\$188,351					
C																						
201-300	9				1	2	2	1	3	1	1	1	1	1	1	1	61,425	6,825	5,000	2,562½	10,150	3,793.7
	9				1	1	1	1	1	1	1	1	1	1	1	1	80,500	8,944	5,000	5,000	14,000	4,500
	18				1	2	2	1	7	2	2	2	2	2	2	2	\$141,925					
D																						
301-500	9				1	1	1	1	1	2	1	1	1	1	1	1	107,863	11,984	9,000	4,500	19,656½	7,578.2
	11				1	1	1	1	1	5	1	1	2	2	2	2	213,302	19,391	10,000	10,000	25,000	7,500
	20				1	1	1	2	1	7	2	1	3	1	1	1	\$321,165					
E																						
501-Over	14								1	1	2	3	1	2	4	4	463,046	33,074	22,500	13,673	56,000	21,163½
	2																114,000	57,000				
	16								1	1	2	3	1	2	6	6	\$577,046					
	178	6	17	16	27	49	14	11	12	7	5	5	2	3	4	4	\$884,732					
	76	1	5	5	10	11	8	9	8	13	3	2	2	2	2	2	575,710					
	284	7	22	16	37	60	22	20	20	20	8	7	4	3	8	8	\$1,460,442					

The information shown in Table VI is taken from Form 2, and represents the total capital investment, that is, the entire amount of money invested in sites, buildings and equipment. It is the sum of the amounts of money displayed in Table II and Table IV.

The construction of the table is exactly similar to the tables previously canvassed. There are 327 city high schools and 96 township high schools, making a total of 423, making this report. It will be noted that there are 14 high schools in the State having a total investment of over one-quarter of a million dollars each. Beginning with Class C in each group, as verified in a later table, the high schools pretty generally have their own building, grounds and equipment. We note in the city high schools of Class C that the median expenditure is \$54,000, and the middle 50 per cent of this group have invested from \$31,000 to \$100,000. The township high schools of this group have a median investment of \$79,000, whereas the middle 50 per cent have invested from \$52,500 to \$100,350. Every other group examined in the same way will reveal the same type of information. The table confirms and emphasizes the facts shown in the preceding ones, as it would necessarily do since it is the sum of the amounts considered in the former cases—that is, the amount invested increases rapidly with the increase in enrollment, the township high schools in all categories have invested larger sums of money than the city high schools, that the quartile deviation is larger in every group in the township high schools than in the city high schools.

#### MAINTENANCE OF THE PLANT.

After the plant is constructed and the school is in operation its maintenance becomes a pressing and permanent problem. Very often in the administration of schools there is no consistent policy in this matter. Plans are made in a haphazard manner at the conclusion of a school year or during the vacation period for the renovation of the plant in order to get it ready for operation the following year. Very often needed repairs are neglected and the plant deteriorates. Again changes and alterations are made with no very clear foresight as to the future needs of the school. Very often alterations are omitted which might contribute very materially to the success of the school. Furthermore there is often negligence in keeping a separate account for this fund so that the board and the supervisory officers may have definite knowledge as to the events of the past in this respect. It is only by studying the past history of the local institution and a careful prognosis of its needs in the future that the matter of maintenance of the building can be managed in an efficient manner. In managing the fund that will be used for this purpose it is necessary that the school authorities have a very clear idea as to the items which should be charged against this fund. Supplies which are consumed in the using do not properly belong here. Permanent improvements which are in the nature of additions to the plant do not belong here. Only those items of expenditure which replace parts of the building which have been worn out or destroyed should be included. Repairs, replacement of equipment, insurance, etc., belong in this fund. Many commercial institutions reg-

TABLE VI—TOTAL CAPITAL INVESTMENT—(FORM 2, NO. 18).

	Number of schools.	\$1,000-\$5,000	\$5,001-\$10,000	\$10,001-\$15,000	\$15,001-\$20,000	\$20,001-\$25,000	\$25,001-\$30,000	\$30,001-\$35,000	\$35,001-\$40,000	\$40,001-\$45,000	\$45,001-\$50,000	\$50,001-\$75,000	\$75,001-\$100,000	\$100,001-\$150,000	\$150,001-\$200,000	\$200,001-\$250,000	\$250,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.	
A																								
1-100	223	207	4	5	2	4	3	2	1	1	1	1	1	1	1	1	1	\$423,844	\$ 1,900.65	500	\$ 300	\$ 1,200	450	
	45	16	6	4	2	4	4	3	2	1	1	1	1	1	1	1	1	701,641	16,925.36	12,000	2,061	27,750	2,814	
	268	223	10	9	4	4	7	5	2	1	1	1	1	1	1	1	1	\$1,185,485						
B																								
101-200	66	38	3	2	2	2	5	2	1	4	3	4	2	2	2	2	2	955,504	15,084.91	2,500	1,250	29,000	13,875	
	22	3	1	1	1	1	2	3	1	2	2	8	2	2	2	2	2	965,669	43,885.41	47,575	28,000	58,500	15,250	
	88	41	3	3	2	2	7	5	1	5	5	12	2	2	2	2	2	\$1,961,173						
C																								
201-300	11	1	1	1	1	1	1	1	1	1	1	4	3	3	3	3	3	679,840	61,803.63	54,000	31,000	100,000	34,500	
	13	2	1	1	1	1	1	1	1	1	1	3	4	2	1	1	1	985,897	75,822.85	79,000	52,500	100,350	23,925	
	24	3	1	1	1	1	1	1	1	1	1	7	4	5	1	1	1	\$1,665,737						
D																								
301-500	11	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$1,351,768	122,888.00	115,000	70,000	163,100	45,550	
	13	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	231,194	177,784.15	170,000	80,500	256,041	87,770	
	24	1	1	1	1	1	1	1	1	1	1	4	2	4	6	1	1	\$1,582,962						
E																								
501-Over	16	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3,534,753	220,922.06	245,250	139,163	307,000	83,918	
	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1,419,725	473,241.67	559,000	161,500	699,225	268,862	
	19	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$4,954,478						
Total City H. S.	327	246	8	7	4	2	9	5	1	6	3	10	3	7	6	2	8	6,985,709						
Total Twp. H. S.	96	21	6	5	2	4	6	6	2	2	4	15	7	4	5	1	6	4,364,126						
Grand total...	423	267	14	12	6	6	15	11	3	8	7	25	10	11	11	3	14	\$11,349,835						

ularly charge off against their building a certain percentage of their capital investment for depreciation. Very often this figure is set at 5 per cent of the capital investment, the corporation going on the assumption that the plant should be completely replaced by this fund in the course of twenty years. It is the custom in this connection to accumulate a fund which will be used for maintenance purposes.

In the administration of a public high school considerations such as the foregoing should influence the practice of the institution. If the school authorities have studied the situation thoroughly, as suggested above, the past history of the institution and a well-considered plan for the future will guide the policy. The great need which has heretofore been lacking to school authorities is definite information as to what other institutions have been able to do in this respect. When an institution is considering this problem it would throw considerable light on the situation if the institution was able to refer to the practice of other institutions of its rank and grade and to know what they were able to do in this regard. It is with this in mind that the information provided in Question 45 of Form 2 was assembled and tabulated. This information is shown in Table VII.

The various groups of schools are arranged in this table according to the plan heretofore followed. The amounts of money involved are grouped at the top of the table in sums as follows: \$1 to \$100, \$101 to \$200, \$201 to \$300, etc. There are shown in this table the maintenance costs of 320 city high schools and 81 township high schools—a total of 401 high schools, a large enough number on which to base conclusions with considerable confidence. It will be noticed that there are 145 city high schools of Class A whose maintenance cost is from \$1 to \$100, and 12 township high schools having a similar cost. In Classes A and B there are a considerable number of high schools with a very low maintenance cost. This is due to the fact that many of these high schools are quartered in elementary school buildings, as is shown in Table XXIII. It will be noticed also that there are 3 high schools in the State which have a maintenance cost of over \$5,000.

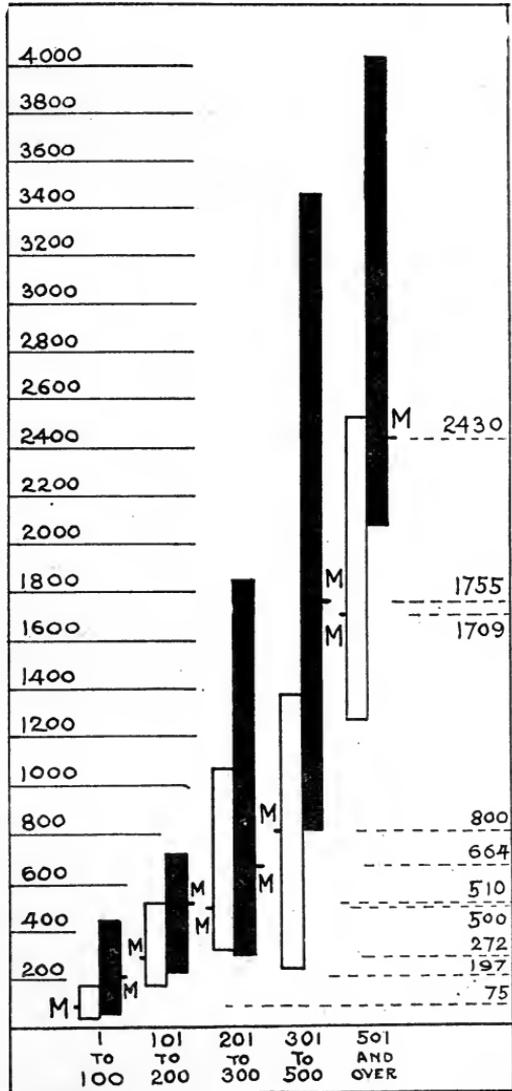
To illustrate the statement previously made about finding in this table some information as to the custom of other high schools, we may take Class D as an example, wherein the enrollment is from 301 to 500. It will be noted that the median maintenance cost for city high schools in this group is \$800. The middle 50 per cent of this group of schools expend from \$237 to \$1,351 annually in maintaining the building. The median maintenance cost of the township high schools of this group is \$1,755. In this group the middle 50 per cent expend from \$792 to \$3,465 annually. A school then that expends less than \$237 is very likely miserly in its policy in this respect. If it expends more than \$3,465 annually, it is very likely that there is some unusual and extraordinary expense involved. A larger expenditure than this sum would demand a special explanation, which could often be justified. A progressive institution could very well feel then that it was neither miserly nor extravagant if its annual maintenance cost lay between the figures \$1,755 and \$3,465, i. e., between the median and third quartile of this group. The facts given in Table VII are shown graphically in Figure 4.

TABLE VII—MAINTENANCE OF PLANT—(FORM 12, NO. 45).

	Number of schools.	\$1-\$100	\$101-\$200	\$201-\$300	\$301-\$400	\$401-\$500	\$501-\$600	\$601-\$700	\$701-\$800	\$801-\$900	\$901-\$1,000	\$1,001-\$1,500	\$1,501-\$2,000	\$2,001-\$2,500	\$2,501-\$3,000	\$3,001-\$4,000	\$4,001-\$5,000	\$5,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A																								
1-100																								
City H. S.	220	145	42	15	6	6	1	3	3	1	1	1	1	1	1	1	1	1	\$26,933	\$122.41	\$75	\$37	\$150	\$56
Twp. H. S.	36	12	9	3	4	2	2	1	1	1	2	1	1	1	1	1	1	1	12,219	\$339.42	\$197	\$51	\$370	\$159
Total	256	157	51	18	10	8	3	1	3	1	3	1	1	1	1	1	1	1	\$39,152					
B																								
101-200																								
City H. S.	62	11	15	8	7	7	1	3	3	1	1	4	1	1	1	1	1	1	24,778	\$94.84	\$272	\$150	\$500	\$175
Twp. H. S.	16	3	1	1	2	1	2	2	1	1	1	1	1	1	1	1	1	1	9,658	\$603.63	\$510	\$222	\$703	\$240
Total	78	14	16	9	9	8	3	5	4	2	1	5	1	1	1	1	1	1	\$34,436					
C																								
201-300																								
City H. S.	11	1	1	1	1	2	1	1	1	1	1	3	2	2	1	1	1	1	7,052	\$641.09	\$500	\$300	\$1,058	\$379
Twp. H. S.	13	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	14,082	\$1,083.23	\$664	\$274	\$1,844	\$785
Total	24	3	2	1	2	3	1	2	2	1	1	4	2	2	1	1	1	1	21,134					
D																								
301-500																								
City H. S.	11	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	8,697	\$790.64	\$800	\$237	\$1,351	\$557
Twp. H. S.	13	1	1	1	1	1	1	1	1	1	1	2	3	2	1	1	1	1	29,955	\$2,304.85	\$1,755	\$792	\$3,465	\$1,336
Total	24	2	2	2	2	2	2	2	2	2	2	5	4	2	2	2	2	2	\$38,652					
E																								
501-Over																								
City H. S.	16	1	1	1	1	1	1	1	2	1	1	2	5	3	2	2	1	1	46,222	\$2,888.87	\$1,709	\$1,250	\$2,500	\$625
Twp. H. S.	3	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	8,570	\$2,856.67	\$2,430	\$2,064	\$4,070	\$1,003
Total	19	2	2	2	2	2	2	2	3	2	2	3	5	5	3	3	2	2	\$54,792					
Total City H. S.	320	157	59	26	15	16	2	5	10	2	2	13	6	4	1	2	2	2	113,682					
Total Twp. H. S.	81	17	11	5	8	4	6	4	2	2	2	4	3	6	1	2	2	2	74,484					
Grand total.	401	174	70	31	23	20	8	9	12	4	4	17	9	10	1	4	2	3	\$188,166					

In this graph the increase in the maintenance cost as the enrollment increases is very marked. This graph is constructed on the same principles as the others. An equalizing scale lies to the left of the figure and a scale of medians on the right. The hollow bars represent the city high schools and the solid bars the township high schools. In every category the township high schools surpass the city high schools in maintenance

Fig. 4—Maintenance of Plant. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the sums expended for maintenance annually from the first quartile to the third quartile; the hollow bars represent the city high schools and the solid bars the township high schools. M represents the median annual expenditure in each case. An equalized scale of the annual expenditure is shown at the left and a scale of the medians at the right.



cost. By referring again to the table it is noted that the quartile deviation in the case of the township high schools is greater than that of the city high schools. Here again is shown the variation of the township high schools from the practice of city high schools of their own grade and group.

## OPERATION OF PLANT.

The next logical topic in the consideration of the plant is its operation. This is discussed under two heads: (a) Expense covering the salaries of janitors, engineers, and so forth; (b) Expense covering necessary materials such as fuel, water, light, power, janitor's supplies, and so forth.

Because of the large quartile deviation shown in the tables following on this topic it will be seen that this matter of the operation of the high school has not been very thoroughly standardized. Boards of education and school authorities in general are often in a quandary as to just the proper amount of money justifiably spent in a matter of this kind. There is such a wide field of expenditure coming under this head and so many important considerations in it that it is difficult to formulate a progressive and yet a sane policy. If the expenditures are curtailed to too great an extent, the sanitation of the building and consequently the health of its occupants is likely to suffer. On the other hand it is very easy to squander money in useless expenditures at this point. Here again progress will be made toward a proper standardization of this matter by an investigation of the practice of other schools.

Table VIII is a compilation of the statistics in this matter pertaining to the money spent in the Illinois high schools for janitors, engineers, and so forth.

The expenditures are grouped in the various sums, \$1 to \$100, \$101 to \$200, etc., as shown at the top of the table. The distribution of the various groups of schools follows the same general plan as that heretofore followed. It will be noted that a large number of schools in Classes A and B have an exceedingly small expenditure, due to the same fact noted in the preceding table that the high school is quartered in the elementary school building. Following the previous custom, we may here again get an idea as to what is the proper policy by examining the situation in a single class. Take Class D, for example. City high schools of this class have a median expenditure for janitors, engineers, etc., of \$1,350. The middle 50 per cent of schools of this group expend from \$1,049 to \$1,725 annually. The township high schools have a median expenditure of \$2,000. The middle 50 per cent have expended from \$1,245 to \$4,079. Again we may very properly say that a progressive school might feel that its expenditures were well within the limits of good practice as set by schools of its own group if it expended a sum annually as limited by the median and the third quartile or from \$2,000 to \$4,079. The facts in this table are shown graphically in Figure 5.

This graph in conformity with those preceding, shows that the expenditures for this item increase directly with the increase in enrollment and that the expenditures of the township high schools on this item are higher than those of the city high schools in every group. Here again the quartile deviation of the township high schools is greater than that of the city high schools in every group except Class B.

The second large subdivision in the operation of the plant is that covering the expenditures for necessary materials, such as fuel, water, light, power, janitor's supplies, and so forth. The expenditures under

TABLE VIII—OPERATION OF PLANT—JANITORS, ENGINEERS, ETC.—(FORM 2, NO. 44A).

	Number of schools.	\$1-\$100	\$101-\$200	\$201-\$300	\$301-\$400	\$401-\$500	\$501-\$600	\$601-\$700	\$701-\$800	\$801-\$900	\$901-\$1,000	\$1,001-\$1,500	\$1,501-\$2,000	\$2,001-\$2,500	\$2,501-\$3,000	\$3,001-\$4,000	\$4,001-\$5,000	\$5,001-Over	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A																								
1-100	245	123	76	30	12	2	1	1	1	1	1	1	1	1	1	1	1	1	11,431	\$ 137.72	\$ 100	\$ 75	\$ 173	\$ 49
	38	2	14	7	6	3	4	1	1	1	1	1	1	1	1	1	1	1	11,431	300.82	242	150	400	125
		283	125	90	37	18	5	2	1	1	1	1	1	1	1	1	1	1	\$45,173					
B																								
101-200	66	2	16	15	10	6	8	3	3	1	1	1	1	1	1	1	1	1	25,063	379.74	315	200	517	158
	21	1	1	1	1	3	7	2	3	1	1	2	4	4	4	4	4	4	13,357	633.05	600	498	752	126
		87	3	17	15	10	9	5	6	2	2	3	3	3	3	3	3	3	\$38,420					
C																								
201-300	11	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	7,613	692.09	655	450	987	175
	13	1	1	1	1	1	2	1	1	3	2	3	1	1	1	1	1	1	11,163	858.69	870	675	1,028	176
		24	1	2	3	3	1	2	3	4	4	4	1	1	1	1	1	1	\$18,776					
D																								
301-500	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15,231	1,384.64	1,350	1,049	1,725	338
	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	31,076	2,300.46	2,000	1,245	4,079	1,417
		24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$46,307					
E																								
501-Over	16	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	44,691	2,793.19	2,238	1,612	3,078	733
	3	125	92	45	23	12	10	5	6	2	3	8	8	4	2	2	2	2	19,801	6,900.33	6,900	3,320	9,581	3,130
		19	3	15	8	7	6	14	4	4	3	8	3	1	1	1	1	1	\$64,492					
		437	128	107	53	30	18	24	9	10	6	16	11	5	3	3	3	3	\$213,168					

this head are more thoroughly standardized than in the preceding as shown by the fact that the quartile deviations are not so large. Table IX covering these expenditures is made up in exactly the same manner as the preceding one. It will be noted that 169 city high schools of Class A expend \$1 to \$100 per annum, and that 12 township high schools spend a similar amount. There are 2 city high schools and 5 township high schools, making a total of 7 high schools in the State, which have an

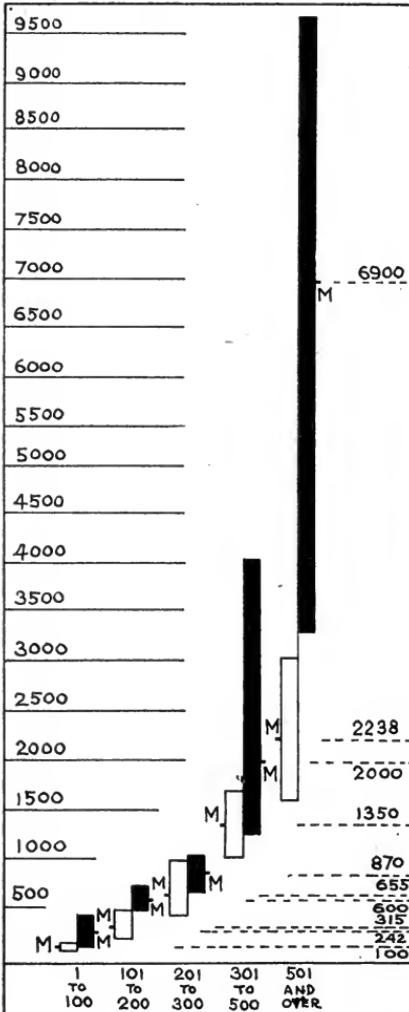


Fig 5.—Operation of the Plant—Janitors, engineers, etc. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the annual expenditure for operation from the first quartile to the third quartile; the hollow bars represent the city high schools and the solid bars the township high schools. M represents the median annual expenditure in each case. An equalized scale of the annual expenditures is shown at the right and a scale of the medians at the right.

annual expenditure of over \$5,000 under this head. The facts set forth in this table are shown graphically in Figure 6.

The same general trend is noted here as in all of the preceding tables thus far, namely, that larger sums are expended in the township high schools for this purpose than in the city high schools, in every group. The quartile deviations are greater in the case of township high schools in every group than in the city high schools. School authorities who

TABLE IX—OPERATION OF PLANT—FUEL, WATER, LIGHT, SUPPLIES, ETC.—(FORM 2, NO 4B).

	Number of schools	\$1-\$100	\$101-\$200	\$201-\$300	\$301-\$400	\$401-\$500	\$501-\$600	\$601-\$700	\$701-\$800	\$801-\$900	\$901-\$1,000	\$1,001-\$1,500	\$1,501-\$2,000	\$2,001-\$2,500	\$2,501-\$3,000	\$3,001-\$4,000	\$4,001-\$5,000	\$5,001-Over	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A																								
1-100																								
City H. S.	238	169	48	15	3	3	2													\$ 98.03	\$ 73	\$ 50	\$ 120	\$ 35
Twp. H. S.	38	12	11	6	3	3														213.13	169	75	279	102
Total	276	181	59	21	6	6	2													\$31,430				
B																								
101-200																								
City H. S.	67	5	18	14	11	6	7	3	1		2									331.22	261	176	450	137
Twp. H. S.	19		5		3	4	2	2	1											478.98	438	150	610	230
Total	86	5	23	14	14	10	9	5	2		2									\$31,311				
C																								
201-300																								
City H. S.	11		1	4			1	3		1										491.64	400	350	655	152
Twp. H. S.	13				3	1	1	1	2		2	3								778.85	717	489	1,064	312
Total	24		1	4	1	1	2	4	2	1	2	3								\$15,533				
D																								
301-500																								
City H. S.	11				1	2			1		2									1,083.91	1,002	351	1,615	132
Twp. H. S.	13								1		2	1	2							3,022.85	1,666	1,021	4,740	1,859
Total	24				1	2			1		2	3	4							\$51,820				
E																								
501-Over																								
City H. S.	16								1	1	2	1	4	1	1	1	2	1	2	2,594.31	1,743	1,220	3,400	1,090
Twp. H. S.	3																			6,561.33	5,947	3,002	10,735	3,866
Total	19																			\$ 61,193				
Total City H. S.	343	174	67	81	20	9	9	6	3	2	4	4	6	1	2	2	1	2	104,963					
Total Twp. H. S.	86	12	16	6	9	8	5	4	4	1	4	6	2		4			5	86,324					
Grand total	429	186	83	87	29	17	14	10	7	3	8	10	8	1	2	6	1	7	\$191,287					

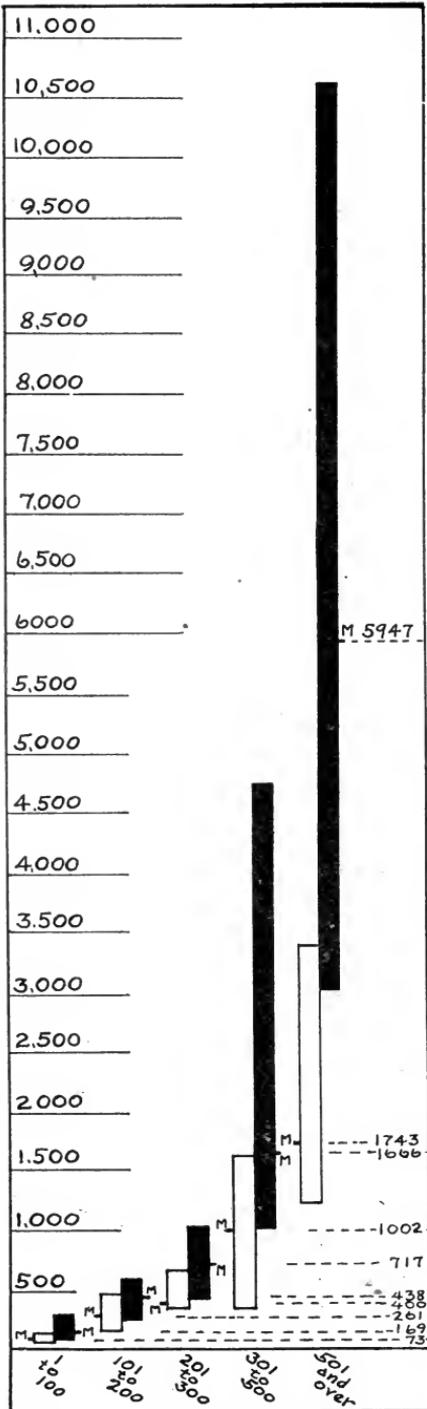


Fig. 6.—Operation of the Plant—Fuel, water, supplies, etc. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the annual expenditure from the first quartile to the third quartile; the hollow bars represent the city high schools and the solid bars the township high schools. M represents the median annual expenditure in each case. An equalized scale of the annual expenditure is shown at the left and a scale of the medians at the right.

TABLE X—OPERATION OF PLANT—TOTAL—(FORM 2, NO. 44T).

	Number of schools.	\$1-\$100	\$101-\$200	\$201-\$300	\$301-\$400	\$401-\$500	\$501-\$600	\$601-\$700	\$701-\$800	\$801-\$900	\$901-\$1,000	\$1,001-\$1,500	\$1,501-\$2,000	\$2,001-\$2,500	\$2,501-\$3,000	\$3,001-\$4,000	\$4,001-\$5,000	\$5,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.	
A	249	15	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	\$57,123	229.43	188	\$ 121	\$ 298	\$ 88	
1-100	41	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	19,530	476.34	347	239	704	252	
		290	48	102	61	31	17	11	6	2	4	2	5	1	1	1	1	1	\$76,653						
B	67	2	4	10	11	9	4	5	4	2	14	2	2	2	1	1	1	1	47,255	705.29	600	408	930	261	
101-200	21	1	1	1	1	3	1	1	1	1	3	6	2	1	1	1	1	1	22,476	1,070.29	1,000	655	1,210	277	
		88	1	3	5	10	11	12	4	6	5	20	4	1	1	1	1	1	\$69,731						
C	11	1	1	1	1	1	1	2	2	1	1	6	2	2	1	1	1	1	13,021	1,183.73	1,223	800	1,437	318	
201-300	13	1	1	1	1	1	1	2	2	1	3	4	2	2	1	1	1	1	21,288	1,637.54	1,557	1,014	2,133	559	
		24	1	1	1	1	1	2	2	1	9	6	2	2	1	1	1	1	\$34,309						
D	11	1	1	1	1	1	1	1	1	1	1	1	3	2	3	2	3	3	27,154	2,468.55	2,300	1,516	3,805	1,144	
301-500	13	1	1	1	1	1	1	1	1	1	1	3	2	3	1	1	1	1	70,373	5,413.31	3,256	2,120	8,297	3,088	
		24	1	1	1	1	1	1	1	1	1	1	3	6	3	4	4	4	\$97,527						
E	16	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	86,200	5,387.13	4,227	3,048	6,184	1,543	
501-Over	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	39,485	13,161.67	15,528	6,322	17,665	1,033	
	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	\$125,685						
Total	354	46	99	54	34	26	19	8	9	5	3	22	6	5	3	7	1	13	230,753						
City H. S.	91	3	6	12	7	2	5	4	2	4	5	13	9	6	2	2	2	3	173,152						
Total Twp. H. S.	445	49	105	66	41	28	24	12	11	9	8	35	15	11	5	9	1	16	\$403,905						

wish to compare their own expenditures under this head with those of other schools can very readily adopt a plan suggested in the previous table of noting the expenditures of the schools of their class. They can note the median expenditure and that of the middle 50 per cent, compare their own expenditures with these amounts and consider the various factors that enter into their own situation, and thus reach a satisfactory conclusion as to their own policy.

In Table X the expenditures for janitors, engineers, etc., and that for materials such as water, light, power, janitor's supplies, etc., are added together, showing the total cost for the operation of the plant. Because the two tables have exactly the same features and trend no new information would come from a consideration of Table X. It is valuable principally as furnishing a set of totals.

It is possible by a study of this table to find out the complete cost for operating the plant. This is sometimes very desirable. For example, taking Class D as heretofore, it is noted that the median total cost for operating city high schools of this group is \$2,390. The middle 50 per cent of schools of this group expend from \$1,516 to \$3,805. The median total expenditure for operating township high schools of this group is \$3,256. The middle 50 per cent expend from \$2,120 to \$8,297. Looking at the other part of the table it is to be noted that 16 high schools in the State expend over \$5,000 annually for operating the plant.

### CHARACTERISTICS OF THE PLANT.

After we have given full consideration to the site and the building and their cost and have given particular study to their maintenance and operation, the next question that arises is as to the characteristics of the plant. Great variation necessarily will be noted under this head. Some institutions have a great variety of features which are designed to accommodate the pupils and the community. Others will be conservative on this, and if we make a proper estimate of the plant, we do not get a complete understanding of the matter until we have studied this topic.

In the routine blanks on file in the office of the Superintendent of Public Instruction in Illinois there is no detailed information, however, that is sufficient to give us a very adequate conception of what the situation is in the various groups of schools under consideration. This information is tabulated in Tables XI to XVII inclusive and is shown graphically in Figure 7. At the head of the table in each case is shown the information on the basis of which the table is made up. This is in the form of yes and no questions.

TABLE XI—BUILDING—(APPROVAL BLANK NO. 12).

		Yes.		No.		Blanks.		Total.
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
A 1-100	City H. S.....	12	4.87	220	89.45	14	5.69	246
	Twp. H. S.....	24	51.06	18	38.29	5	10.64	47
	Total.....	36	12.28	238	81.2	19	6.48	293
B 101-200	City H. S.....	8	11.76	55	80.88	5	7.35	68
	Twp. H. S.....	16	80.00	3	15.00	1	5.00	20
	Total.....	24	27.27	58	65.9	6	6.81	88
C 201-300	City H. S.....	8	61.53	4	30.76	1	7.69	13
	Twp. H. S.....	9	69.2	1	7.69	3	23.00	13
	Total.....	17	65.38	5	19.2	4	15.38	26
D 301-500	City H. S.....	11	100.00	.....	.....	.....	.....	11
	Twp. H. S.....	11	100.00	.....	.....	.....	.....	11
	Total.....	22	100.00	.....	.....	.....	.....	22
E 501-Over	City H. S.....	14	93.3	1	6.66	.....	.....	15
	Twp. H. S.....	3	100.00	.....	.....	.....	.....	3
	Total.....	17	94.4	1	5.55	.....	.....	18
Grand total.....		116	25.95	302	67.56	29	6.48	447

TABLE XII—LIBRARY—(APPROVAL BLANK NO. 27).

		Yes.		No.		Blanks.		Total.
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
A 1-100	City H. S.....	233	94.7	3	1.2	10	4.00	246
	Twp. H. S.....	44	93.61	1	2.12	2	4.25	47
	Total.....	277	94.5	4	1.36	12	4.09	293
B 101-200	City H. S.....	65	95.58	.....	.....	3	4.41	68
	Twp. H. S.....	19	95.00	.....	.....	1	5.00	20
	Total.....	84	95.45	.....	.....	4	4.54	88
C 201-300	City H. S.....	13	100.00	.....	.....	.....	.....	13
	Twp. H. S.....	11	84.6	.....	.....	2	15.38	13
	Total.....	24	92.3	.....	.....	2	7.69	26
D 301-500	City H. S.....	10	90.9	.....	.....	1	9.09	11
	Twp. H. S.....	11	100.00	.....	.....	.....	.....	11
	Total.....	21	95.45	.....	.....	1	4.5	22
E 501-Over	City H. S.....	15	100.00	.....	.....	.....	.....	15
	Twp. H. S.....	3	100.00	.....	.....	.....	.....	3
	Total.....	18	100.00	.....	.....	.....	.....	18
Grand total.....		424	94.85	4	.89	19	4.28	447

TABLE XIII—LABORATORY EQUIPMENT—(APPROVAL BLANK NO. 29).

		Equipped for teachers only.		Pupils also.		Blank.		Total schools.
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
A 1-100	City H. S. ....	42	17.07	185	75.20	19	7.70	246
	Twp. H. S. ....	4	8.50	40	85.10	3	6.30	47
	Total.....	46	15.69	225	76.79	22	7.50	293
B 101-200	City H. S. ....			61	89.70	7	10.29	68
	Twp. H. S. ....			19	95.00	1	5.00	20
	Total.....			80	90.90	8	9.09	88
C 201-300	City H. S. ....			12	92.30	1	7.69	13
	Twp. H. S. ....			10	83.30	2	16.66	12
	Total.....			22	88.00	3	12.00	25
D 301-500	City H. S. ....			10	90.90	1	9.09	11
	Twp. H. S. ....			11	100.00			11
	Total.....			21	95.45	1	4.50	22
E 501-Over	City H. S. ....			15	100.00			15
	Twp. H. S. ....			3	100.00			3
	Total.....			18	100.00			18
	Grand total.....	46	10.30	366	82.06	34	7.60	446

TABLE XIV—MANUAL TRAINING ROOMS—(APPROVAL BLANK NO. 31).

		Yes.		No.		Blanks.		Total.
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
A 1-100	City H. S. ....	63	25.6	150	60.97	33	13.41	246
	Twp. H. S. ....	21	41.68	22	46.8	4	8.51	47
	Total.....	84	28.66	172	58.7	37	12.62	293
B 101-200	City H. S. ....	32	47.05	30	44.11	6	8.82	68
	Twp. H. S. ....	12	60.00	6	30.00	2	10.00	20
	Total.....	44	50.00	36	49.9	8	9.09	88
C 201-300	City H. S. ....	8	61.53	2	15.38	3	23.07	13
	Twp. H. S. ....	9	69.23	2	15.38	2	15.38	13
	Total.....	17	65.38	4	15.38	5	19.23	26
D 301-500	City H. S. ....	11	100.00					11
	Twp. H. S. ....	11	100.00					11
	Total.....	22	100.00					22
E 501-Over	City H. S. ....	14	93.33	1	6.66			15
	Twp. H. S. ....	3	100.00					3
	Total.....	17	94.44	1	5.55			18
	Grand total.....	184	41.16	213	47.65	50	11.18	447

TABLE XV—DOMESTIC SCIENCE ROOMS—(APPROVAL BLANK NO. 32).

		Yes.		N .		Blanks.		Total.
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
A 1-100	City H. S. ....	34	13.82	184	74.79	28	11.38	246
	Twp. H. S. ....	20	42.55	19	40.42	8	17.02	47
	Total .....	54	18.43	203	69.28	36	12.28	293
B 101-200	City H. S. ....	24	35.29	34	50.00	10	14.70	68
	Twp. H. S. ....	12	60.00	7	35.00	1	5.00	20
	Total .....	36	40.9	41	46.59	11	12.5	88
C 201-300	City H. S. ....	8	61.53	4	30.76	1	7.96	13
	Twp. H. S. ....	9	69.23	2	15.38	2	15.38	13
	Total .....	17	65.38	6	23.07	3	11.53	26
D 301-500	City H. S. ....	9	81.81	1	9.09	1	9.09	11
	Twp. H. S. ....	10	90.9	1	9.09	.....	.....	11
	Total .....	19	86.36	2	9.09	1	4.54	22
E 501-Over	City H. S. ....	15	100.00	.....	.....	.....	.....	15
	Twp. H. S. ....	2	66.66	1	33.33	.....	.....	3
	Total .....	17	94.44	1	5.55	.....	.....	18
Grand total .....		143	31.99	253	56.59	51	11.41	447

TABLE XVI—GYMNASIUM—(APPROVAL BLANK NO. 34).

		Yes.		No.		Blanks.		Total.
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
A 1-100	City H. S. ....	31	12.6	194	78.86	21	8.53	246
	Twp. H. S. ....	17	36.17	26	55.31	4	8.51	47
	Total .....	48	16.38	220	75.08	25	8.53	293
B 101-200	City H. S. ....	18	26.47	45	66.7	5	7.35	68
	Twp. H. S. ....	12	60.00	7	35.00	1	5.00	20
	Total .....	30	34.09	52	59.09	6	6.81	88
C 201-300	City H. S. ....	7	53.84	5	38.46	1	7.69	13
	Twp. H. S. ....	6	46.15	5	38.46	2	15.38	13
	Total .....	13	59.00	10	8.46	3	11.53	26
D 301-500	City H. S. ....	5	45.45	5	45.45	1	9.09	11
	Twp. H. S. ....	7	63.63	3	27.27	1	9.09	11
	Total .....	12	54.54	8	33.36	2	9.09	22
E 501-Over	City H. S. ....	11	73.33	4	26.65	.....	.....	15
	Twp. H. S. ....	2	66.66	1	33.3	.....	.....	3
	Total .....	13	72.22	5	27.77	.....	.....	18
Grand total .....		116	25.95	295	65.99	36	8.05	447

TABLE XVII—ATHLETIC FIELD—(APPROVAL BLANK NO. 35).

		Yes.		No.		Blanks.		Total.
		Number.	Percent.	Number.	Per cent.	Number.	Per cent.	
A 1-100	City H. S. ....	94	38.31	101	41.06	51	20.73	246
	Twp. H. S. ....	29	61.70	15	31.91	3	6.38	47
	Total. ....	123	47.97	116	39.59	54	18.43	293
B 101-200	City H. S. ....	23	33.82	33	48.52	12	17.64	68
	Twp. H. S. ....	14	70.00	3	15.00	3	15.00	20
	Total. ....	37	42.04	36	40.9	15	17.04	88
C 201-300	City H. S. ....	3	23.07	8	61.53	2	15.38	13
	Twp. H. S. ....	4	30.76	5	38.46	4	30.76	13
	Total. ....	7	26.92	13	50.00	6	23.07	26
D 301-500	City H. S. ....	4	38.36	5	45.45	2	18.18	11
	Twp. H. S. ....	6	54.54	3	27.27	2	18.18	11
	Total. ....	10	45.45	8	36.36	4	18.18	22
E 501-Over	City H. S. ....	4	26.66	11	73.33	.....	.....	15
	Twp. H. S. ....	2	66.66	1	33.33	.....	.....	3
	Total. ....	6	33.33	12	66.66	.....	.....	18
	Grand total. ....	183	40.93	185	41.38	79	17.67	447

For example, Table XI shows the percentage of schools in the various groups which possess a building, the percentage who do not possess a building, and the percentage which is blank or, in other words, those who make no report. In this table there are 25.9 per cent of the schools which have a building, 67.55 per cent which have no building, and 6.5 per cent are reported as blank; in other words, they make no report. Since this information comes from 447 schools it is very complete. The same general situation will be found in the other tables. For instance, in reporting on the manual training situation, 11.2 per cent of the schools failed to report, 41.16 per cent report that they have manual training rooms, 47.6 per cent report that they do not have any. The situation with reference to any particular group of schools can readily be found by scrutinizing the table. For example, in Table XI it is noted in Class A that 89.45 per cent of the city high schools do not have a building, and that 38.29 per cent of the township high schools do not have a building. Passing down the table, in Class C 30.76 per cent of the city high schools of this group do not have a building, 7.69 per cent of the township high schools do not have a building.

Since the facts in all of these tables are shown in graphic form in Figure 7 we may refer to that in order to get a general idea of the various high schools of the various groups so far as the characteristics of the plant are concerned. At the left hand side of the graph in the square provided for it is shown the number of the question on which the table is made up and on which the graph is constructed. The second column shows the size of the school, the third column shows the percentage of schools having the feature under consideration. For example, in that part of the graph appertaining to the building, in Group A 4.87 per

cent of the city high schools have a building and 51.6 per cent of the township high schools have a building. The hollow bar, as heretofore, in each case represents the city high schools, the solid bar represents the township high schools.

It will be noted that in the smaller Classes A, B and C the township high schools are much better provided for in the matter of buildings than the city high schools. In that part of the graph referring to the library we have a remarkable variation from the trend heretofore shown in the comparisons of the equipment of the township high schools. In Classes A, B and C the township high schools are not as well provided for in the matter of library as the city high schools. In Class E they are equally well provided for. In Class D there are more of the township high schools which have libraries than city high schools.

As to the question whether or not the laboratories provided for these various buildings are equipped for pupils, it is seen that in Class E the two groups of high schools are equally well provided for. In Class C the township high schools are not so well provided as the city high school. In all other classes the township high schools are better provided for than the city high schools.

As to the number of manual training rooms (Question 31), in Class C the city high schools and the township high schools are equally well provided. In every other class the township high schools surpass the city high schools.

In the matter of provision for domestic science rooms, in Class E the city high schools are better provided. In every other class the township high schools are very much better provided for.

In the matter of gymnasium, in Classes C and E the city high schools are better provided for; in every other class the township high school are better provided for. In the matter of an athletic field the township high schools are better provided for in every class than the city high schools. The remarkable situation shown in this graph is the fact that the smaller classes A and B are better provided even than the upper classes. This is very likely due to the fact that in making out the report on the Approval Blank the smaller schools report themselves as possessing athletic fields when they probably rent them or lease them. It is another evidence of the tendency on the part of schools of this grade to magnify whatever possessions they might have with a view to securing recognition for their schools.

One of the most important features in the equipment of a school, which is often neglected, is the library. In recent years large sums of money have been expended for laboratory equipment, domestic science, manual training, etc., all of which expenditures are amply justified. However, the center of every high school should be its library, and expenditures for equipment are woefully out of balance when the appropriations for this item of equipment are low and others are adequately provided for. It adds much more to the efficiency of every department in the building, and should be the center of academic activity. As was shown in Figure 7, the township high schools are inferior to the city high schools in this particular, although superior in every other. The information regarding the libraries in the State of Illinois is reported in

Question 23 of Form 2. This information is assembled and displayed in Table XVIII.

This table is made up in exactly the same manner as the preceding tables. Here again the quartile deviation is greater in the case of the township high schools than in the city high schools in every case except

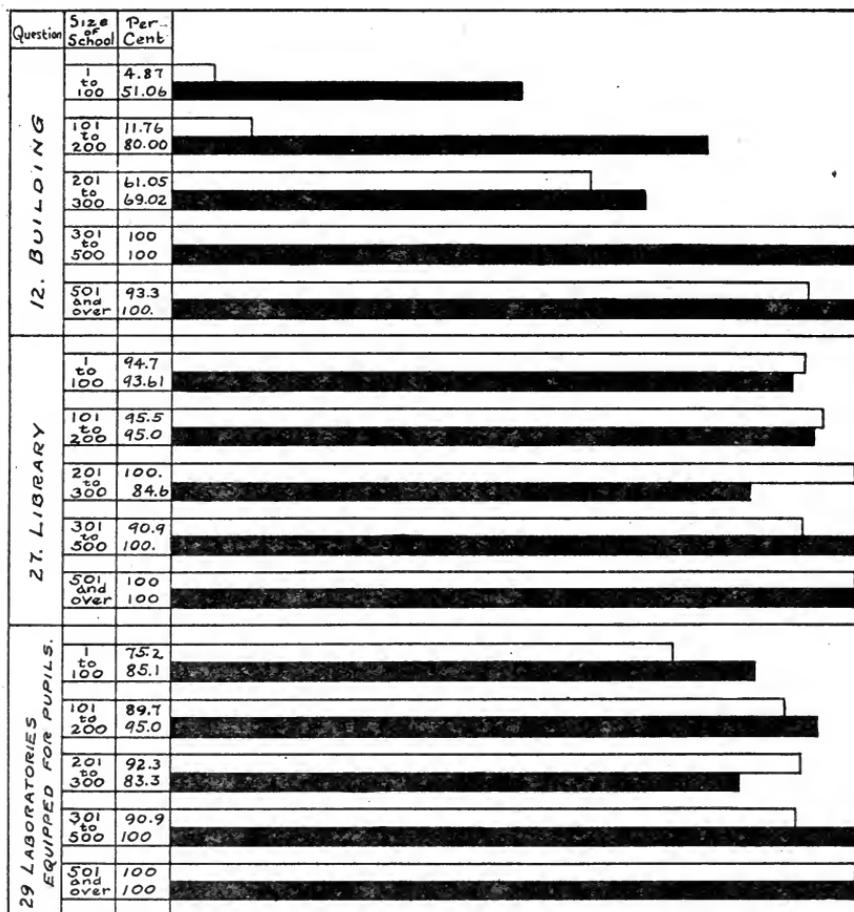


Figure 7a

Figure 7.—Characteristics of the Plant. In the vertical oblong spaces to the left are shown the number for the question in Form 2 from which the information is derived and the particular feature of the plant referred to each respective section of the graph. In each section of the graph the schools are classified in the second vertical column according to their enrollment. In the third vertical column the percentage of the schools in each group possessing the feature designated in the first vertical column is shown. This percentage is represented at the right by horizontal bars, the hollow bars representing city high schools, the solid bars the township high schools. "

in Class A, where it is smaller. The facts brought out in Table XVIII are shown graphically in Figure 8.

The graph here referred to is constructed in exactly the same manner as those heretofore. An equalized scale appears at the left hand and

a scale of medians at the right. It is particularly to be noted here that in library equipment the township high schools are inferior to the city high schools in Class A, B and C; they are superior in Classes D and E.

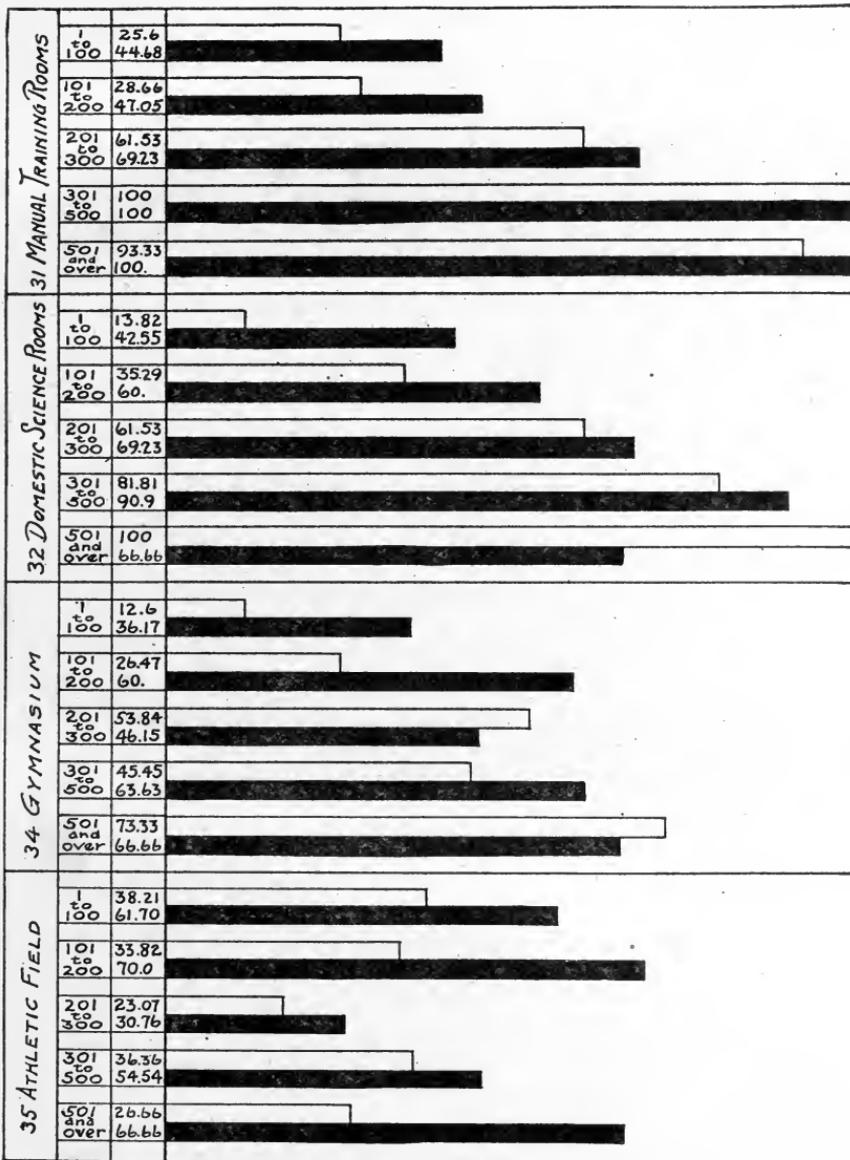


Figure 7b

The smaller township high schools have not realized the necessity for a library.

In Table XIX we have a display of the information as to the number of students for whom the laboratories in the high school are equipped.

TABLE XVIII—VOLUMES IN THE LIBRARY—(FORM 2, NO. 23).

	Number of schools.	\$1-\$100	\$101-\$200	\$201-\$300	\$301-\$400	\$401-\$500	\$501-\$600	\$601-\$700	\$701-\$800	\$801-\$900	\$901-\$1,000	\$1,001-\$1,500	\$1,501-\$2,000	\$2,001-\$2,500	\$2,501-\$3,000	\$3,001-\$3,500	\$3,501-\$4,000	Over \$4,000	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.	
A																									
1-100																									
City H. S.	244	13	40	41	26	35	22	15	12	8	9	16	4	1	1	1	1	1	130,232	534	428	250	650	200	
Twp. H. S.	41	2	8	11	7	6	2	2	1	1	1	1	1	1	1	1	1	1	15,063	367	300	206	500	147	
Total	285	15	48	52	33	41	24	17	13	8	10	17	4	1	1	1	1	1	145,285						
B																									
101-200																									
City H. S.	63	1	3	8	4	8	1	5	2	5	6	10	4	1	4	1	1	1	60,212	956	800	400	1,300	450	
Twp. H. S.	18	1	1	4	3	3	1	1	2	2	1	4	1	1	1	1	1	1	14,322	796	775	400	1,100	350	
Total	81	1	3	9	8	11	1	5	4	7	7	14	4	2	4	2	2	2	74,534						
C																									
201-300																									
City H. S.	12	1	1	1	1	1	1	1	1	1	3	3	3	2	1	1	1	1	16,080	1,340	1,028	988	2,025	544	
Twp. H. S.	10	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	12,109	1,211	1,025	525	1,900	688	
Total	22	1	1	1	1	1	1	1	1	2	3	4	3	3	2	2	2	2	28,189						
D																									
301-500																									
City H. S.	11	1	1	1	1	1	1	1	1	1	2	2	3	1	1	1	1	1	21,385	1,944	1,610	850	2,229	690	
Twp. H. S.	12	1	1	1	1	1	1	1	1	1	1	2	2	2	3	1	1	1	28,291	2,358	2,300	1,627	2,800	632	
Total	23	1	1	1	1	1	1	1	1	2	1	4	5	3	4	2	2	2	49,676						
E																									
501-Over																									
City H. S.	16	1	1	1	1	1	1	1	1	1	1	2	1	2	1	3	1	5	53,564	3,348	3,175	2,081	4,689	1,329	
Twp. H. S.	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	12,117	4,039	4,100	3,017	5,000	992	
Total	19	1	1	1	1	1	1	1	1	1	2	1	2	1	3	2	7	7	65,681						
Total City H. S.	346	14	43	49	30	45	24	21	15	15	18	33	12	7	8	3	1	8	281,493						
Total Twp. H. S.	84	2	8	13	12	9	3	4	3	3	2	8	5	4	3	1	1	3	81,872						
Grand total	430	16	51	62	42	54	27	25	18	18	20	41	17	11	11	4	2	11	363,365						

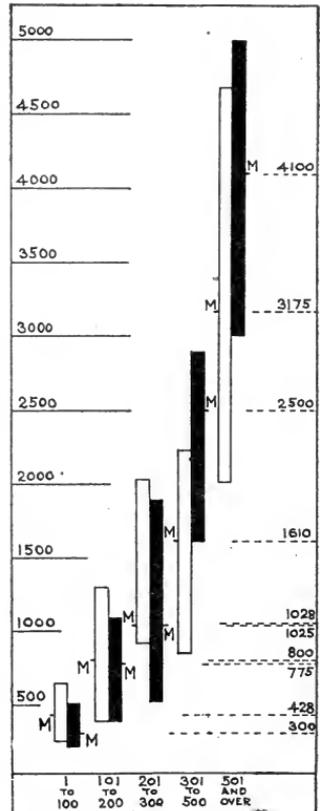
TABLE XIX—NUMBER LABORATORIES ARE EQUIPPED FOR—(APPROVAL BLANK NO. 30).

	1-5		6-10		11-15		16-20		21-25		26-30		Over 30.		Blank.		Total schools.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
A																	
1-100	6	2.4	37	15.6	60	24.39	67	27.2	12	4.87	4	1.6	1	2.1	60	24.39	246
			6	12.76	14	29.78	14	29.78	4	8.5	1	2.1	1	2.1	7	14.89	47
	6	2.	43	14.67	74	25.25	81	27.6	16	5.46	5	1.7	1	.34	67	22.8	293
B	1	1.47	1	1.47	4	5.88	35	51.47	12	17.6	7	10.29	2	2.9	6	8.8	68
101-200			1	5.	1	5.	10	50.	6	30.			1	5.	1	5.	20
	1	1.1	2	2.27	5	5.68	45	51.1	18	20.45	7	7.95	3	3.4	7	7.95	88
C																	
201-300							3	23.07	5	38.46	3	23.07	2	15.38			13
							1	3.3	7	58.3	2	16.66	1	8.3	1	8.3	12
							4	16.	12	48.	5	20.	3	12.	1	4.	25
D																	
301-500							3	27.27	5	45.45	3	27.27	3	27.27			11
							5	45.45	3	27.27	2	18.18	2	18.18	1	9.09	11
							8	36.36	8	36.36	5	22.7			1	4.5	22
E																	
501-Over							3	20.	2	53.3	4	26.66					15
							1	33.3	2	66.6							3
							4	22.2	10	55.55	4	22.2					18
Grand total.....	7	1.56	45	10.08	79	17.7	142	31.8	64	14.3	26	5.8	7	1.56	76	17.	446

The distribution of the school groups at the left of the table is shown in the regular manner. At the top of the various columns the number of pupils for whom the laboratories are equipped are grouped, 1 to 5, 6 to 10, 11 to 15, and so forth.

At the right of table is shown a column of blanks, indicating the number of schools who do not report on this item, and the column at the extreme right is the number of schools involved. There are 446 schools from which the information was tabulated. Of these schools 17 per cent do not report on the item. In each of the other columns the number and percentage of students in each group is shown. In this table it appears very readily that there is no important distinction between the township high schools and the city high schools. The number of students for

Figure 8.—Volumes in the Library. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range in number of volumes from the first quarter to the third quarter; the hollow bars represent the city high schools and the solid bars the township high schools. M represents the median number of volumes in each case. An equalized scale of the number of volumes is shown at the left and a scale of the medians at the right.



which laboratories are equipped is worthy of some attention, however. In Class E laboratories are typically equipped for from 21 to 25 students. In Class D the mode in the group is from 16 to 20 for the township high schools and from 21 to 25 for the city high schools. In Class C the mode is from 21 to 25 although there are 5 in the group from 26 to 30. In Class B the mode is from 16 to 20. In Class A two sizes predominate, 11 to 15 and 16 to 20.

In Table XX is compiled the information supplied under Question 23 of the Approval Blank. This is in reference to the number of sittings in the General Assembly.

TABLE XX—NUMBER OF SITTINGS IN GENERAL ASSEMBLY—(APPROVAL BLANK NO. 23).

		Blank.	1-100	101-200	201-300	301-400	401-500	501-750	751-1,000	Over 1,000.	Total schools.
A 1-100	City H. S.....	54	154	24	7	5	1	1	.....	.....	246
	Twp. H. S.....	6	26	11	1	1	2	.....	.....	.....	47
	Total.....	60	180	35	8	6	3	1	.....	.....	293
B 101-200	City H. S.....	7	10	46	4	.....	.....	.....	1	.....	68
	Twp. H. S.....	3	4	11	1	1	.....	.....	.....	.....	20
	Total.....	10	14	57	5	1	.....	.....	1	.....	88
C 201-300	City H. S.....	.....	1	6	5	1	.....	.....	.....	.....	13
	Twp. H. S.....	1	.....	3	5	.....	2	.....	1	.....	12
	Total.....	1	1	9	10	1	2	.....	1	.....	25
D 301-500	City H. S.....	.....	.....	1	5	2	2	.....	1	.....	11
	Twp. H. S.....	.....	.....	.....	4	5	1	.....	1	.....	11
	Total.....	.....	.....	1	9	7	3	.....	2	.....	22
E 501-Over	City H. S.....	2	.....	.....	1	2	1	5	2	2	15
	Twp. H. S.....	1	.....	.....	.....	.....	.....	.....	1	1	3
	Total.....	3	.....	.....	1	2	1	5	3	3	18
Total City H. S.....		63	165	77	22	10	4	6	4	2	353
Total Twp. H. S.....		11	30	25	11	7	5	.....	3	1	93
Grand total.....		74	195	102	33	17	9	6	7	3	446

From an examination of this table it will be noted that it is constructed on the plan of the preceding ones. It will be readily seen that the various high schools typically provide the number of sittings to accommodate their enrollment. For example, both township high schools and city high schools having an enrollment of 101 to 200 provide assembly room sittings for that number of students. For example, in Class B there are 57 schools that have assembly sittings to the number of 101 to 200.

The same information is provided in Table XXI but derived from the other blank, that is Form 2.

This information is organized in the manner habitually followed in this study. It is carried out in more detail than in the previous table. The medians, quartiles and quartile deviations are shown. The same facts as noted in the preceding table are shown here, and this topic needs no further discussion.

In planning the construction of a new high school building one of the first problems that confronts the architect is the unit of construction, which must necessarily be based upon the number of recitation rooms, since recitation rooms are more numerous than rooms of any other type. The school authorities who are responsible for inaugurating a building campaign must necessarily have in their minds just how elaborately they are going to equip their plant with laboratories, manual training rooms, domestic science rooms, and so forth. These special rooms have had

TABLE XXI—SITINGS—(FORM 2, NO. 17).

	Number of schools.	1-15	26-50	51-75	76-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1,000	1001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A 1-100	City H. S.	9	98	71	51	17										15,429	62.72	59	40	80	20
	Twp. H. S.	46	12	15	13	6										3,379	73.46	70	50	96	23
	Total	292	9	110	86	64	23														
B 101-200	City H. S.	68			3	58	4	2	1							10,746	158.03	142	120	170	25
	Twp. H. S.	22			1	17	3	1								3,104	172.	155	120	196	38
	Total	90			4	75	7	2	1	1											
C 201-300	City H. S.	11					9	1	1							2,995	272.27	250	226	300	37
	Twp. H. S.	12			1	1	9		1							2,915	258.67	237	215	204	24
	Total	23			1	1	18	1	2												
D 301-500	City H. S.	11				1	1	3	3							6,199	563.55	420	334	800	233
	Twp. H. S.	13					2	8	2							5,174	398.	375	335	403	34
	Total	24				1	3	11	5												
E 501-Over	City H. S.	16					1	3	3	3	1	1	2	4	1	11,212	700.75	703	475	918	221
	Twp. H. S.	3														3,227	1,075.67	1,108	746	1,373	313
	Total	19					1	3	3	3	1	2	2	4	3						
Grand total	Total City H. S.	352	98	71	54	76	15	9	4	4	1	2	2	4	3	46,581					
	Total Twp. H. S.	96	12	15	15	24	14	8	4	4		2		2	2	17,799					
	Total	448	9	110	86	69	100	29	17	4	8	1	4	2	4	64,380					

some considerations in the preceding tables and in the preceding discussion. Schools from 200 to 500 typically have 2 domestic science rooms, 2 manual training rooms, two or more laboratories, a gymnasium and athletic field, and so forth. Just how many of these special rooms will be provided in the building depends upon the amount of money available and the policy of the school authorities. However, the efficiency of the building will depend largely upon adequate provision for recitation rooms. The number of recitation rooms is the first consideration in the construction of a high school. In Table XXII is shown a set of facts as to the number of recitation rooms which are in use in the high schools of the various sizes indicated.

TABLE XXII—NUMBER OF RECITATION ROOMS—(NORTH CENTRAL BLANK).

	A 1-100		B 101-200		C 201-300		D 301-500		E 501-Over.		F		Total.	
	Median.	Quartile Range.	Median.	Quartile Range.	Median.	Quartile Range.	Median.	Quartile Range.	Median.	Quartile Range.	Median.	Quartile Range.	Median.	Quartile Range.
North Central .....	4	3-6	5	5-6	8	6-10	12	10-15	20	16-26	37	27-44	7	5-11
Illinois .....	5	4-7	6	5-8	9	7-10	14	12-16	17	16-25	33	23-40	9	5-16
Township High School .....	.....	.....	6	4-9	8	6-10	14	11-16	.....	.....	.....	.....	8	5-14

This information is compiled from a preliminary transcript prepared by Mr. Counts in preparation for his study "A Study of Colleges and High Schools in the North Central Association," published by the United States Bureau of Education, referred to in the second chapter of this study. In this table the various groups of high schools are arranged at the top; the North Central Association, the Illinois high schools, and the township high schools are shown in the left hand column. The table shows the median number of recitation rooms in the high schools of the various groups, in the column marked "medians." The middle 50 per cent of each group is shown also under the heading marked "Quartile Range." For example, on reading the table from left to right beginning with the line opposite "North Central," we find that in the North Central schools in Class A the median is 4 recitation rooms, and the middle 50 per cent of the schools of the North Central Association have from 3 to 6 recitation rooms, in this group. In the North Central Association in Class B the median number of recitation rooms in schools of this group is 5. The middle 50 per cent of the quartile range as it is called here, have from 5 to 6 recitation rooms, and so on. The situation may be noted for the city high schools in Illinois and for the township high schools in the same manner. It will be noted that in Class D the median number of recitation rooms in the North Central Association is 12, and the middle 50 per cent is from 10 to 15. Illinois high schools in this group have a median of 14 class rooms; the middle 50 per cent is from 12 to 16. Township high schools have a median of 14; the middle 50 per cent have from 11 to 16 recitation rooms.

Here again in preparing to erect a high school plant the school authorities responsible for the matter could safely determine upon a certain number of recitation rooms in the light of this table, in addition to the special rooms for domestic science, manual training, etc., which they may decide to incorporate. For example, if they had an enrollment of 200 but expected their population and their proportionate high school enrollment to increase, they might plan to construct a building to accommodate from 300 to 500 students. In that case they would determine that in addition to the various special rooms, manual training, domestic science, etc., which they might construct, a moderate estimate of the recitation rooms needed would be 14. More progressive people would prefer to make the limit set by the median and the third quartile, 14 to 16. The provision would not be extraordinary if 16 recitation rooms were provided.

In Table XXIII is displayed the information coming from Question 15 of the Approval Blank.

This has to do with the number of rooms used for the high school where there is no separate building. It also gives the information as to the number of schools which have no building. There are 446 high schools involved. Of these schools 3.13 per cent make no report on this item, 68.83 per cent report that they have no high school building, 28.02 per cent represent that they have buildings. This large percentage is due to the fact that so large a proportion of the high schools in the State are small. There are 293 schools in the State having an enrollment of 1 to 100 pupils; 246 of these are city high schools, 47 are township high schools. Of the city high schools in Class A 87.8 per cent have no separate building; 46.8 per cent of the township high schools have no separate building. In both classes A and B there is a large percentage which have no separate building. In the middle portion of the table are shown the number of schools in each group having 1, 2, 3, 4, 5 rooms, and so on. In each case also the percentage of schools having a given number of rooms is indicated. This percentage is based upon the number of schools in that group. For example, in the city schools in Class A there are 7 high schools which have 6 rooms each. This is 3.24 per cent of the total number in this group, which is 246. At the right of the table are shown the medians, the quartiles and the quartile deviations. For example, in Class A the median number of rooms which city high schools with no separate building to occupy is 3; the middle 50 per cent of these schools occupy from 1 to 4 rooms. In the case of township high schools in Class A the median number of rooms occupied by township high schools which have no building is 4; the middle 50 per cent of this group of schools occupy from 3 to 5 rooms. Similarly in Class B in the case of city high schools the median number of rooms occupied by city schools which have no separate building is 7. The number of rooms occupied by the middle 50 per cent of city high schools of this group is from 5 to 7. In the township high schools in this group the median number of rooms occupied by high schools having no separate building is 6; the middle 50 per cent is from 5 to 6.

As has been previously stated, most of the preceding tables must be interpreted in the light of this table. That is, when we are consid-

TABLE XXIII—NUMBER OF ROOMS USED FOR HIGH SCHOOL WHERE THERE IS NO SEPARATE BUILDING—(APPROVAL BLANK NO. 15).

	Blank.		Schools having separate buildings.		Schools not having separate buildings.		1		2		3		4		5		6		7		8		9		10		Over 10.		Total schools.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.					
A 1-100	City H. S.....	8 3.25	22 8.94	216 87.8	14 6.48	37 17.12	98 45.37	33 15.27	24 11.11	7 3.24	1 4.6	2 92																	246 3	1 4	1.5		
	Twp. H. S.....	1 2.12	24 51.06	22 46.8	3 13.63	8 36.36	3 13.63	6 27.27			1 4.54	1 4.54																47 4	3 5	1.			
	Total.....	9 3.07	46 15.99	238 81.22	14 5.88	40 16.8	106 44.53	36 15.12	30 12.6	7 2.94	2 84	3 1.26															293 3	3 4	.5				
B 101-200	City H. S.....	3 4.41	11 16.17	54 79.4			1 1.85	7 12.96	13 24.07	24 47.4	4 7.4	2 3.7	5 9.25															68 7	5 7	1.			
	Twp. H. S.....	1 5.	15 75.	4 20.			1 25.	1 25.	1 25.	1 25.	1 25.																	20 6	5 6	.5			
	Total.....	4 4.54	26 29.54	58 65.9			1 1.72	8 13.79	14 24.13	14 24.13	5 8.61	5 8.61	2 3.44	5 8.61													88 6	5 8	1.5				
C 201-300	City H. S.....	1 8.33	7 53.84	6 46.15			1 16.66																					13					
	Twp. H. S.....		9 75.	2 16.66																								12					
	Total.....	1 4.	16 64.	8 32.			1 12.5																				25						
D 301-500	City H. S.....		8 72.72	3 27.27																									11				
	Twp. H. S.....		11 100.																									11					
	Total.....		19 86.36	3 13.63																								22					
E 501-Over	City H. S.....		15 100.																										15				
	Twp. H. S.....		3 100.																									3					
	Total.....		18 100.																									18					
Grand total.....	14 3.13	125 28.2	307 68.85	14 4.56	40 13.02	108 35.17	44 14.3	46 14.98	21 6.84	7 2.28	9 2.93	4 1.3	4 1.3	10 3.25	466																		

ering the maintenance of a plant, the operation of a plant or any other financial consideration whatever that has to do with the plant, it is necessary to note that in the smaller groups the high school plant is operated in connection with the elementary school plant or, in other words, is a part of the elementary school plant. Very often information in these smaller groups which is furnished under various headings is incomplete and somewhat inaccurate because charges which should be made against the high school very likely are entered against the elementary school, and vice versa. Only in the case of high schools which have a separate building can we be sure of securing information pertaining to the high school alone and not complicated with the finances of the elementary school below.

In treating of the facts shown in this chapter thus far certain principles stand out very definitely. In every category it is to be expected that the amount of money invested or expended varies in direct proportion to the increase in enrollment. The township high schools in every case have more money invested in sites and buildings than the city high schools. It costs more to maintain and operate the plant in the township high schools than in the city high schools. The township high schools are more completely equipped in every particular than the city high schools except one, namely, the library.

This larger expenditure both on account of investment and current expense on that part of the township high schools is the direct outgrowth of two features in the township high school organization which characterizes it as a unit of school administration. In the first place, the township high school is organized to cover a wider range of territory than the ordinary high school district, thus providing a wider basis of taxation and allowing a larger accumulation of funds. The greater resources thus provided enable the school authorities to invest larger sums of money in the plant and to give more adequate financial support to the maintenance and operation of the building and to provide greater and more varied equipment for the use of the school. The other factor which has a definite bearing upon this situation is that the board of education and the supervising officer (the principal) give specialized attention to this one unit in the school system, whereas the conventional school district with a system of schools extending from the elementary grades through the high school has a board of education and a superintendent whose attention is diffused over the entire system. This is a consideration which will come up for more particular attention at a later point in this study.

## CHAPTER IV.

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### FINANCE.

Expenditures for the capital account as discussed in the preceding chapter are the first great problem in financing a high school or any other important enterprise of a permanent nature. They often come in a large volume at one time. On the other hand, current expenses are a constant problem.

Boards of education often fail to realize the seriousness or extent of this problem. The finances of school districts large and small, both elementary and secondary, are often managed in a hit or miss fashion without any preconceived plan or policy. There is, however, a growing feeling among educators and among school experts who give their attention to the fiscal side of education that the business interests of school systems should have the same conscientious attention that commercial organizations demand. In order to accomplish this, it is necessary to adopt some of the plans in common use in commercial life. This cannot be accomplished practically without the adoption of proper machinery for studying costs. This means in addition to the adoption of an adequate plan the organization of a much larger clerical force than is now the custom in school systems. A commercial institution having the corresponding size and importance of a school system under consideration would have a much larger clerical force than is now the practice.

On the financial side one of the most urgent needs for the school systems is the adoption of an annual budget. This is more necessary in the school enterprise than in a business enterprise because there are so many persons and departments involved in the demands for money, and these demands are not as thoroughly integrated as is often the case in a commercial establishment.

A school system varies from a commercial enterprise in the character and methods of its income. It does not produce a product for sale and because of that fact people are often blinded to the fact that there is a product, and that the cost of that product must be analyzed. Of course, the first topic in cost analysis is a consideration of the capital account which was discussed in the preceding chapter. In a commercial establishment the capital investment in the plant is carefully accounted for and the depreciation of the plant and equipment are charged against the income. It is customary to allow 10 per cent depreciation charge for the plant itself and 20 per cent depreciation charge for equipment. The reason for this is that replacements and repairs are necessary. They are a legitimate charge against income before dividends are declared. Hence it is impossible to figure profits or to figure costs unless there is an adequate depreciation charge. In this particular only should the finances

of a school be treated differently from that of a business corporation. The reason for this is that the product of the school system is not exchanged for a monetary return with the expectation of profit. This is best managed by including in the budget each year an appropriation for maintenance which was treated in the last chapter.

An analysis of current expenses involves other complicated considerations. Under what heads is it proper that we should analyze current cost? It seems that early in the consideration of this topic an analysis based upon rather large subdivisions will be most valuable. These subdivisions may later be refined and the investigation become more minute. In this study the divisions of the topic are those shown in Form 2, namely, General Control, Instruction, Operating School Plant, Maintenance of Plant, Auxiliary Agencies. These added together constitute the total of current expenses. In this study the items coming under the head of General Control and Auxiliary Agencies have not been tabulated for the reason that the practice in reporting seems to have been so varied that the tabulation would not have been highly valuable. However, these items together with the other items are included in the tabulation of the total current costs so that the tabulation on the matter of total current expenses does represent accurately the situation with reference to total current expenses. The operation of school plant and maintenance of the plant were discussed in the preceding chapter in order to give completeness to that chapter. These topics, however, properly belong in this chapter also, and to have a complete understanding of this chapter the reader should refer to the preceding chapter and examine the tables and graphs covering them and the accompanying ones. They are also indicated in this chapter in a consideration of the total current expenses. There remain for detailed discussion in this topic the matter of instruction, per capita cost, assessed valuation of the districts, and rate of taxation.

Table XXIV exhibits the facts reported under Item 13 of Form 2, namely, amount of annual salary earned by teachers.

This is an important consideration, as it shows the amount unexpended annually for teaching stripped of all other financial considerations. This table is constructed in the same manner as heretofore. City high schools and township high schools are in the column at the left, and the number of schools in each group are shown as they are arranged according to the various amounts of money that they expend annually for teaching. For example, beginning the table at the top and reading to the right, there are 27 city high schools of Class A expending from \$1 to \$1,000 for instruction, 91 expending from \$1,001 to \$2,000, 92 expending from \$2,001 to \$3,000. Similarly, there are 9 township high schools of Class A expending from \$1,000 to \$2,000, and so forth. Note that there are altogether 97 township high schools and 358 city high schools involved in this calculation, making a sum total of 455 high schools which are studied herein. It will be noted that there are 5 schools in the State which spend over \$50,000 annually for instruction. The table also shows the average, the median, the first quartile, the third quartile and the quartile deviation. The median shows what is probably the most representative practice in each of the groups of schools consid-



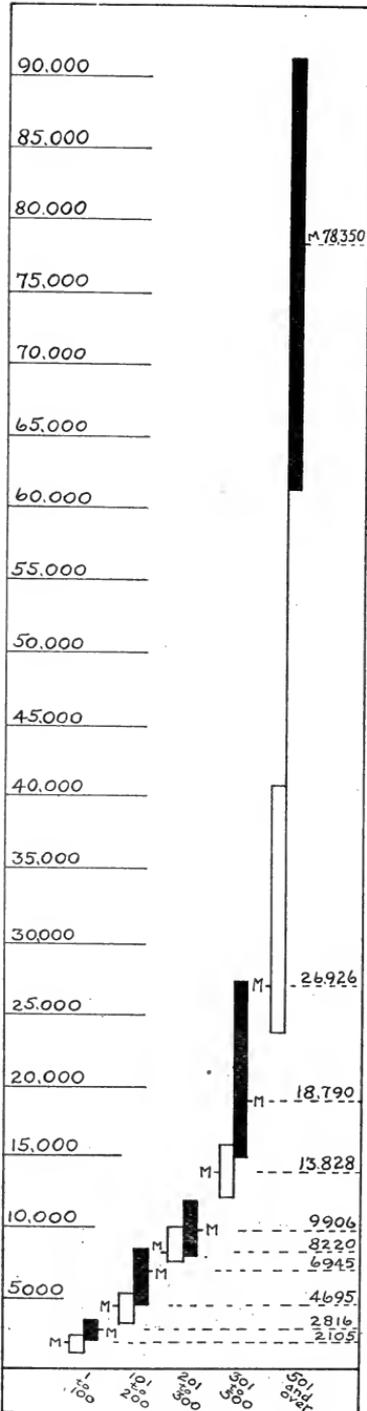


Figure 9—Annual Expenditure for Teaching. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the total annual expenditure for teaching from the first quartile to the third quartile. The hollow bars represent the city high schools and the solid bars the township high schools. M represents the median annual expenditure in each case. An equalized scale of annual expenditure is shown at the left and a scale of the medians at the right.

ered. A school which falls within the middle 50 per cent is probably not far out of the way in its expenditure for instruction as compared with the other institutions in the State. This middle 50 per cent, of course, is shown by the limits of the first quartile and the third quartile. The facts set forth in Table XXIV are shown graphically in Figure 9, and Table XXIV should be studied in conjunction with Figure 9.

Figure 9 shows at the left hand an equalized scale, and at the right a scale of medians. It will be noted in the township high schools in Class D that the median expenditure is \$18,790 per year and that the expenditures of the middle 50 per cent of these schools are from \$15,025 to \$27,150. Now, it is not always creditable to an institution that it spends a smaller amount of money for an item than other institutions do. For example, for instruction it will be seen in a later chapter that practically all of the schools spend too small an amount of money, but it is desirable for the formulation of a correct financial policy and for the completing of an annual budget that an institution know what other institutions of its class and size do in this respect.

In looking over this table and the graph referred to it will be seen that the expenditures for instruction, as would be expected, increase directly as the size of the school increases. It will also be seen that the township high schools in every case expend more than the city high schools. It will also be noted that the deviation in the case of the township high schools is greater than in the city high schools. This, of course, represents larger experimentation and greater difference of practice in handling the same proposition on the part of the township high schools.

In Table XXV is shown the information reported in 43-B of Form 2.

This shows the expenditures of the various schools in the item of the salaries of teachers giving one-half or more time to their work. This table is of particular value in that it shows the amount of money expended for instruction after part-time teachers, superintendents and supervisors who teach less than half time are eliminated. In other words it displays the amount of money expended for full time instruction. An examination of the table, however, shows the same relative situation regarding the expenditures for instruction as Table XXIV. A school wishing to compare itself absolutely in the matter of instruction with others of its class can do so with the satisfaction that all unusual matters, such as part-time teaching, have been eliminated.

On the other hand, Table XXVI is a display of the facts regarding the total cost of instruction reported in Item 43 of Form 2. In this is included all kinds of expenditures for instruction, supervisors and principals who teach less than half time, teachers and principals who teach half time or more, text books, stationery, supplies, interest on teachers' orders, tuition of transferred pupils paid by the district, in fact, all expenditures which may properly come under the head of instruction.

This table is graphically represented by Figure 10.

If we examine this table in the same way as we have preceding tables we will note that, for example, in the township high schools of Class D the median total cost of instruction is \$22,844. The middle 50 per cent of schools of this group expend from \$19,305 to \$27,706. We note also

TABLE XXV—SALARIES OF TEACHERS AND PRINCIPALS WHO TEACH ONE-HALF TIME OR MORE—(FORM 2, NO. 43B).

	Number of schools.	\$1-\$500	\$501-\$1,000	\$1,001-\$1,500	\$1,501-\$2,000	\$2,001-\$2,500	\$2,501-\$3,000	\$3,001-\$4,000	\$4,001-\$5,000	\$5,001-\$6,000	\$6,001-\$7,000	\$7,001-\$8,000	\$8,001-\$9,000	\$9,001-\$10,000	\$10,001-\$15,000	\$15,001-\$20,000	\$20,001-\$25,000	\$25,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A																								
1-100	255	30	40	50	64	84	103	134	183	242	314	407	519	648	800	987	1,200	1,440	\$2,103	\$2,080	\$1,480	\$2,600	\$560	
Twp. H. S.	46	3	6	8	10	13	18	24	32	42	54	68	84	103	129	162	200	250	2,924	2,723	2,287	3,480	596.25	
Total	301	30	43	56	72	93	122	158	206	262	332	415	503	617	757	929	1,150	1,440	\$670,993	4,350	4,350	3,237	5,029	896
B																								
101-200	65	1	9	19	11	4	1	1	1	1	1	1	1	1	1	1	1	1	4,322	4,350	3,237	5,029	896	
Twp. H. S.	22	1	2	4	6	4	1	1	1	1	1	1	1	1	1	1	1	1	6,095	6,215	4,822	7,555	1,366.25	
Total	87	1	10	23	18	10	5	1	3	3	5	7	10	13	16	19	22	25	\$414,978	8,367	7,942	7,056	9,518	1,231
C																								
201-300	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	92,038	8,367	7,942	7,056	9,518	1,231
Twp. H. S.	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	115,669	8,807.6	8,410	7,119	9,867	1,374
Total	24	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	\$207,707	8,367	7,942	7,056	9,518	1,231
D																								
301-500	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	146,480	13,316	12,148	11,358	15,045	1,843.5
Twp. H. S.	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	256,353	19,719	18,045	14,966	28,321	6,677.25
Total	24	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	\$402,833	13,316	12,148	11,358	15,045	1,843.5
E																								
501-Over	16	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	498,633	30,852	24,216	20,509	49,441	14,465.75
Twp. H. S.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	219,293	73,097	75,350	57,075	88,868	14,896
Total	19	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	\$712,926	30,852	24,216	20,509	49,441	14,465.75
Total City H. S.	358	30	40	50	65	84	103	134	183	242	314	407	519	648	800	987	1,200	1,440	1,549,573	12,148	12,148	11,358	15,045	1,843.5
Total Twp. H. S.	97	3	6	8	11	15	8	7	8	5	4	5	3	6	8	6	6	6	859,864	73,097	75,350	57,075	88,868	14,896
Grand total	455	30	43	56	73	93	122	158	206	262	332	415	503	617	757	929	1,150	1,440	\$2,409,437	13,316	12,148	11,358	15,045	1,843.5



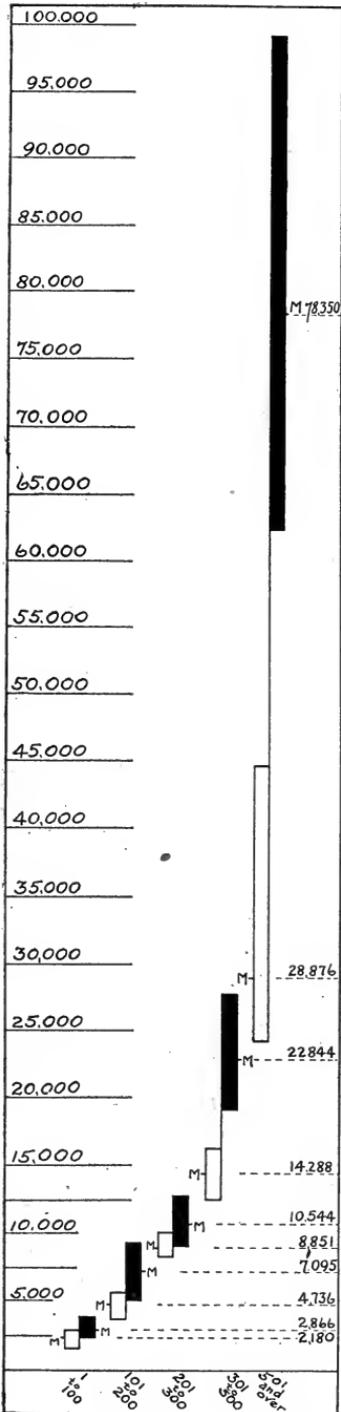


Fig. 10.—Total annual cost of Instruction. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range of the annual cost of instruction from the first quartile to the third quartile. The hollow bars represent the city high schools and the solid bars the township high schools. M represents the median total annual cost of instruction in each case. An equalized scale of annual cost is shown at the left and a scale of the medians at the right.

that here as before the township high schools expend larger sums of money for instruction than the city high schools and that the deviation in every case is larger in the township high schools than in the city high schools.

Perhaps boards of education and school executives generally will be more interested in the tabulation of total costs than in the various items. This is shown in Table XXVII and includes not only the items which are given in detail in this and in the preceding chapter but all other items which come under the head of current expenses.

The facts shown in this table are represented graphically in Figure 11.

Looking at this table in exactly the same way as we have the preceding ones we note, for example, in Class D that the median total current costs of township high schools in this group is \$28,425. The middle 50 per cent of these schools spend from \$23,975 to \$47,185. The deviation in the case of township high schools is greater than in the city schools in every case.

As was indicated in the preliminary discussion in this chapter, there have been formulated no general standards of costs of very wide acceptance. Certain studies have been made on the basis of the cost per enrollment; some have been made on the basis of the cost per hour of instruction; and various other standards of costs have been evolved. Perhaps the standard which would show the best results and give information of an objective character that could be followed by everybody would be the per diem cost. The actual number of days' attendance is shown in this study in Table LXII. There has been no opportunity in the present investigation, however, to tabulate the cost on this basis. We have followed the more common custom, and have calculated the per capita cost on the basis of enrollment. This is found by dividing the total current expense in each individual school by the enrollment reported from that school. The figures thus secured are displayed in Table XXVIII. Table XXVIII is illustrated in Figure 12.

We have in this table information from 97 township high schools and 355 city high schools, a total of 452 high schools. It will be noted in this connection that there are 13 city high schools of Class A in which the cost per capita is from \$21 to \$30; there are 41 in which the cost per capita is from \$31 to \$40. Note particularly that although there are a few schools of Class A which have a very low per capita cost yet there are a number which have a very high per capita cost. There are more schools of Class A which have a per capita cost of over \$100 than of any other class. Examining the medians of the city high schools, it will be noted that the per capita cost does not vary to any large extent. Class B costs less than Class A. Classes A, B and C are very close together. Class E is the most expensive. In the case of the township high schools it will be noticed that the per capita cost in Class A is larger than in Class B and Class C. In Class D of the township high schools the per capita cost rises again, and is at its highest in the case of Class E. In both kinds of schools it is to be noted that Class E has the greatest per capita cost. This class of schools could practice economy most effectively and have the lowest per capita cost, but they

TABLE XXVII—TOTAL CURRENT COSTS—(FORM 2, SUMMARY).

	Number of schools.	\$1-\$1,000	\$1,001-\$2,000	\$2,001-\$3,000	\$3,001-\$4,000	\$4,001-\$5,000	\$5,001-\$6,000	\$6,001-\$7,000	\$7,001-\$8,000	\$8,001-\$9,000	\$9,001-\$10,000	\$10,001-\$15,000	\$15,001-\$20,000	\$20,001-\$25,000	\$25,001-\$30,000	\$30,001-\$40,000	\$40,001-\$50,000	\$50,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A																								
1-100																								
City H. S.	252	981	80	61	15	5	1	1	1	1	1	1	1	1	1	1	1	1	\$641,074	\$ 2,543.13	\$ 2,505	\$ 1,747	\$ 3,216	\$ 734
Twp. H. S.	46	4	7	13	10	8	1	2	2	2	2	2	2	2	2	2	2	2	187,781	4,082.19	3,880	3,002	5,066	1,022
Total	298	985	87	74	25	13	2	2	2	2	2	2	2	2	2	2	2	2	\$828,855					
B																								
101-200																								
City H. S.	68	...	9	14	13	14	8	6	4	4	4	4	2	2	2	2	2	2	411,482	6,037.82	5,921	4,577	7,031	1,227
Twp. H. S.	22	...	...	1	4	2	1	5	3	4	2	2	2	2	2	2	2	2	204,631	9,301.41	8,511	6,209	12,032	2,911
Total	90	...	9	15	17	16	9	11	7	4	2	2	2	2	2	2	2	2	\$616,113					
C																								
201-300																								
City H. S.	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	121,403	11,036.64	11,270	19,342	12,048	1,353
Twp. H. S.	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	181,668	13,974.46	14,705	11,819	16,014	2,997
Total	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	\$303,071					
D																								
301-500																								
City H. S.	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	200,501	18,297.27	17,495	15,871	20,701	2,415
Twp. H. S.	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	432,561	33,473.15	28,425	23,975	47,185	11,605
Total	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	\$633,062					
E																								
501-Over																								
City H. S.	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	699,914	43,744.63	37,482	30,661	52,234	10,786
Twp. H. S.	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	301,140	100,380.00	102,158	70,908	128,074	28,583
Total	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	\$1,001,054					
Total City H. S.	358	981	80	70	29	18	15	9	7	5	9	7	4	3	5	2	5	5	2,074,374					
Total Twp. H. S.	97	4	7	13	11	12	3	4	6	3	12	8	4	1	1	2	6	6	1,307,781					
Grand total	455	985	87	83	40	30	18	13	13	8	21	15	8	4	6	4	11	11	\$3,382,155					

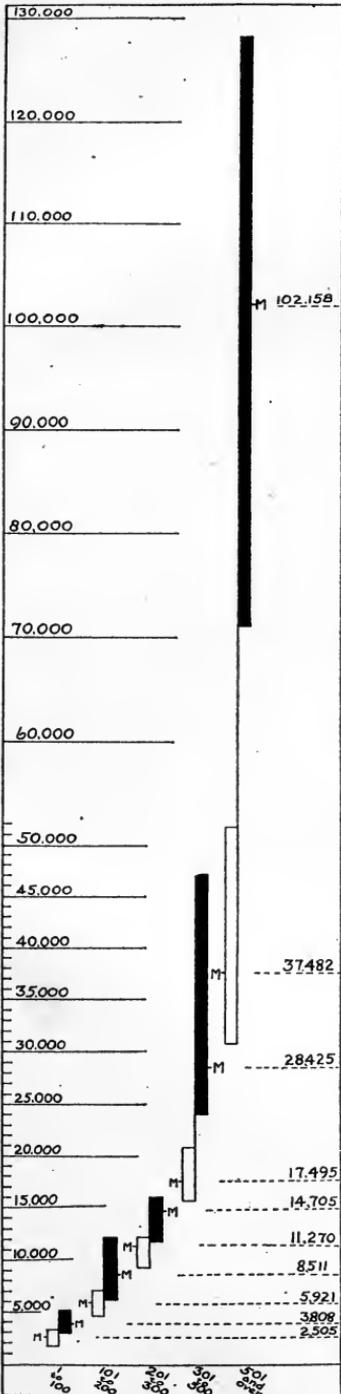


Fig. 11.—Total current costs. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range of total current costs from the first quartile to the third quartile. The hollow bars represent the city high schools and the solid bars the township high schools. M represents the median total current cost in each case. An equalized scale of total current costs is shown at the left and a scale of the median at the right.

TABLE XXVIII—PER CAPITA COST—(FORM 2, SUMMARY).

		Number of schools.										Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
		\$21-30	\$31-\$40	\$41-\$50	\$51-\$60	\$61-\$70	\$71-\$80	\$81-\$90	\$91-\$100	\$101-Over.						
A 1-100	City H. S.....	252	13	41	70	65	31	20	8	3	1	\$54.16	\$50.65	\$41.66	\$59.46	\$ 8.90
	Twp. H. S.....	46	..	1	4	9	4	11	5	3	9	80.47	73.21	57.65	92.45	17.40
	Total.....	298	13	42	74	74	35	31	13	6	10					
B 101-200	City H. S.....	68	2	20	26	13	6	1	..	..	..	45.37	44.23	36.30	51.78	7.74
	Twp. H. S.....	22	1	..	3	6	5	4	1	..	..	67.93	61.15	53.25	76.70	12.73
	Total.....	90	3	20	29	19	11	5	1	..	2					
C 201-300	City H. S.....	11	..	1	7	3	..	..	..	..	..	46.66	43.85	42.13	55.59	6.73
	Twp. H. S.....	13	..	1	2	4	5	..	..	1	..	58.70	59.37	48.17	65.30	8.57
	Total.....	24	..	2	9	7	5	..	..	1	..					
D 301-500	City H. S.....	9	..	1	4	3	1	..	..	..	..	49.31	48.39	43.64	55.85	6.11
	Twp. H. S.....	13	..	..	1	1	4	1	1	..	5	87.32	71.80	66.22	110.68	22.22
	Total.....	22	..	1	5	4	5	1	1	..	5					
E 501-Over	City H. S.....	15	..	..	7	5	3	..	..	..	..	52.77	53.62	46.26	56.29	5.02
	Twp. H. S.....	3	..	..	..	..	..	..	2	..	1	94.48	89.30	87.69	100.46	9.39
	Total.....	18	..	..	7	5	3	..	2	..	1					
Total City H. S....		355	15	63	114	89	41	21	8	3	1					
Total Twp. H. S....		97	1	2	10	20	18	16	9	4	17					
Grand total....		452	16	65	124	109	59	37	17	7	18					

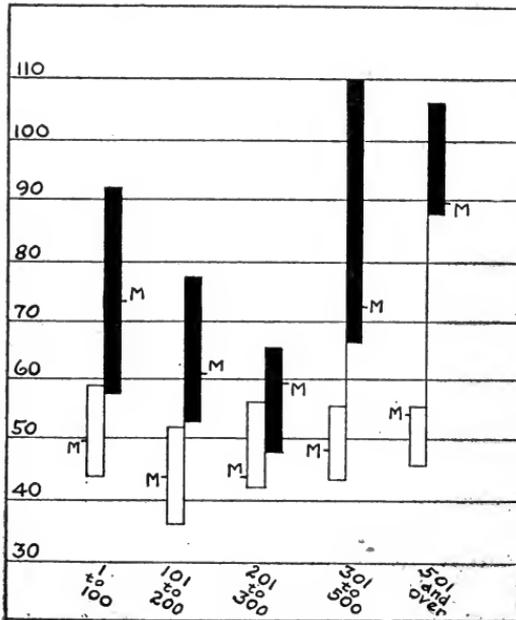


Fig. 12.—Per capita cost. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range of per capita cost from the first quartile to the third quartile. The hollow bars represent the city high schools and the solid bars the township high schools. M represents the median per capita cost in each case. An equalized scale of per capita cost is shown at the left.

also have the opportunity and they choose to take advantage of it to enrich their courses of study, extend their electives and to increase their equipment. Class A has the next largest per capita cost. This is because of their meager enrollment and consequent small classes. This offsets the fact that their teachers have smaller salaries. Following Classes E and A, the remaining groups in the decreasing order of their per capita costs are D, B, and C.

As a generalization upon these figures, it would seem that city high schools can probably most economically handle their students and yet provide them with a broad system of electives and furnish them with excellent equipment, in Classes C and D. It seems that the township high schools may do this best in the case of Class C. In short, Classes B, C and D seem to provide opportunity for an economical administration of high schools. The facilities which they provide will be shown in another chapter.

In this table, as in the preceding ones, it is seen that the per capita cost in the township high schools is more than in the city high schools. Here again the deviation is larger in the township high schools than in the city high schools, in every group. An examination of any individual group may be undertaken in this table as in the preceding ones. For example, in the township high schools of Class D it is to be noted that the median per capita cost for schools for this group is \$71.80. The per capita cost of the middle 50 per cent of schools in this group is from \$66.22 to \$110.68. A school within this range can be sure that it is well supported in its practice by the practice of schools of its own size and standing.

Expenditure, however, is not the whole of the financial problem. School boards and school officials generally, are often in hard straits to secure the necessary income to conduct their schools properly. As was noted in a preceding chapter, probably the most important reason for this difficulty is the fact that the provisions of the school revenues were originally established by law to finance elementary schools which had a relatively simple organization. In the last quarter of a century elementary schools have become very complex and much extensive, and in addition to this has been added in scores of communities the burden of supporting a high school. High school education, necessarily because of the high cost of instruction and the expensive buildings and equipment demanded, has greatly increased the burden placed upon the fiscal resources of the districts in question. Unfortunately this situation has not been frankly faced by legislatures, and in many communities educational interests languish for lack of funds. One of the great benefits of the township high school movement in the State of Illinois is the fact that it provides an adequate solution for this problem. In the case of city high schools there are no figures which show the proportion of the tax rate which is devoted to high school purposes, hence, even were the figures available, it would not be profitable to display a tabulation of the assessed valuation shown in the various city high school districts. This has some value, however, in the case of township high schools, and the information is given in Table XXIX.

TABLE XXIX—ASSESSED VALUATION OF TOWNSHIP HIGH SCHOOL DISTRICTS—  
(SPECIAL REPORT).

	A 1-100	B 101-200	C 201-300	D 301-500	E 501-Over.	Total.
Number of schools.....	40	22	11	7	4	84
Assessed valuation—						
0-\$ 500,000.....	7					7
\$ 500,001- 1,000,000.....	14	4				18
1,000,001- 1,500,000.....	17	5	1			23
1,500,001- 2,000,000.....	2	7	4	1		14
2,000,001- 2,500,000.....		3	2			5
2,500,001- 3,000,000.....		1	2			3
3,000,001- 3,500,000.....						
3,500,001- 4,000,000.....		1	1			2
4,000,001- 4,500,000.....				1		1
4,500,001- 5,000,000.....				2		2
5,000,001- Over.....		1	1	3	4	9
Total.....	40	22	11	7	4	84
Average.....	\$ 181,872	\$ 62,308	\$ 635,076	\$ 856,760	\$10,423,175	
Median.....	1,934,374	1,657,236	2,038,657	4,909,936	6,035,632½	
First Quartile.....	696,240½	1,125,084	1,588,426	4,295,346	7,802,779½	
Third Quartile.....	2,574,907	2,015,534½	2,732,806	7,088,148	13,043,570½	
Quartile Deviation.....	938,333.25	890,450½	572,190	2,792,802	26,920,395½	

This table gives the assessed valuation of 84 township high schools.

In this table the side heads and the top heads are reversed from the custom followed in preceding tables, as explained in Chapter I. The assessed valuation is grouped as 0 to 500,000, 500,001 to 1,000,000, the number of high schools in each group in each horizontal column following the designation of the group. It will be noted that the valuation increases as to the size of the school, which is merely another way of saying that the enrollment corresponds in a broad way with the wealth of the community. This correspondence is not entire, however. It will be noticed that the median assessed valuation of the schools of Class B is smaller than that of Class A. This is because the school districts of both Class A and Class B are largely rural in type, and this represents a chance variation.

In Table XXX are shown the tax rates for township high school districts, based upon the returns of 1915:

The law provides that each township high school district as well as every other school district in the State may assess the property of the district at the rate of 1½ per cent for building purposes and 1½ per cent for educational purposes. It will be noted that this is an arbitrary division of the school funds. It was not originally based upon any scientific determination of the relative needs of the schools of the State so far as building and instruction are concerned. This is one of the problems that ought to be solved by a scientific study of school finances. After a building enterprise has been successfully carried through there is no reason why the 1½ per cent should be the rate allowed for this purpose. It would seem proper that this rate should be very much lowered and that the rate for educational purposes might be materially increased. In the case of many needy districts this would solve many financial problems. This is in part taken care of by recent legislation, which allows the people by special vote to make the ratio 2 per cent for educational

TABLE XXX—TAX RATES 1915—(SPECIAL REPORT).

	A 1-100	B 101-200	C 201-300	D 301-500	E 501-Over.	Total.
Total schools.....	29	17	11	5	4	66
Rate for educational purposes—						
0- .25.....	.....	.....	.....	.....	.....	.....
.26- .50.....	11	4	.....	.....	.....	15
.51- .75.....	10	5	5	.....	1	21
.76-1.00.....	5	3	3	1	.....	12
1.01-1.25.....	1	2	2	3	1	9
1.26-1.50.....	2	3	1	1	2	9
Total.....	29	17	11	5	4	66
Average.....	.63	.79	.91	1.094	1.09	
Median.....	.53	.70	.79	1.16	1.17	
First Quartile.....	.455	.52	.70	.875	.91	
Third Quartile.....	.86	1.23	1.24	.....	.....	
Quartile Deviation.....	.465	.355	.54	.....	.....	
Total schools.....	14	11	8	5	4	42
Rate for building purposes—						
0- .25.....	4	5	4	.....	.....	13
.26- .50.....	4	3	3	1	2	13
.51- .75.....	2	1	.....	1	1	5
.76-1.00.....	2	2	1	1	1	6
1.01-1.25.....	.....	.....	1	1	.....	2
1.26-1.50.....	2	.....	.....	1	.....	3
Total.....	14	11	8	5	4	42
Average.....	.59	.38	.39	.83	.51	
Median.....	.315	.28	.28	.83	.475	
First Quartile.....	.215	.20	.12	.455	.34	
Third Quartile.....	.975	.52	.855	.....	.....	
Quartile Deviation.....	.380	.16	.367	.....	.....	
Total schools.....	39	22	11	7	4	83
Total tax rate—						
0- .25.....	1	.....	.....	.....	.....	1
.26- .50.....	8	1	.....	.....	.....	9
.51- .75.....	10	4	1	.....	.....	15
.76-1.00.....	9	7	4	.....	.....	20
1.01-1.25.....	5	3	3	1	1	13
1.26-1.50.....	1	4	1	1	1	8
1.51-1.75.....	1	.....	1	3	1	6
1.76-2.00.....	1	2	.....	.....	.....	5
2.01-2.25.....	.....	1	.....	1	1	3
2.26-2.50.....	.....	.....	1	.....	.....	1
2.51-2.75.....	.....	.....	.....	1	.....	1
2.76-3.00.....	1	.....	.....	.....	.....	1
Total.....	39	22	11	7	4	83
Average.....	.87	1.09	1.20	1.72	1.60	
Median.....	.77	.89	1.10	1.68	1.565	
First Quartile.....	.51	.765	.91	1.35	1.315	
Third Quartile.....	1.08	1.41	1.27	2.06	1.90	
Quartile Deviation.....	.285	.645	.18	.355	.30	

purposes and 1 per cent for building purposes, but there are cases when the proportion in favor of educational purposes should be much larger than this. In fact, there is not much justification for having a division in the law at all. The entire matter might very properly be left to the boards of education to determine, that is, they might be allowed to assess 3 per cent on the total assessed valuation and divide it as the needs of the district required. If there were adequate and special supervision of this matter providing for the formation of budgets, no evils could grow out of a plan of this kind. In Table XXX the rates which the various

township high school districts are assessed for township high school districts are shown, also the rate for building purposes, and the sum of the two or the total tax rate. In this table the township high schools classed according to enrollment are shown in the first horizontal column at the top. In the vertical column to the left is shown a grouping for the tax rates. For example, the figures 0-25 indicate the tax range from 0 to 25 cents on the dollar; the figures 26-50 indicate the tax range from 26 cents to 50 cents on the dollar. Reading the table from left to right there are 11 schools of Class A whose tax rate for educational purposes is 26 cents to 50 cents on the dollar; 4 in Class B whose rate for educational purposes is 26 cents to 50 cents on the dollar, etc. In looking at the rate for educational purposes it will be noted that schools of Class B and Class C have nearly the same rate, namely, 70 cents in the case of Class B and 79 cents in the case of Class C. Class D and Class E have also nearly the same rate, \$1.16 in the case of Class D and \$1.17 in the case of Class E. It will be noted by an examination of this table that 11 districts in Class A have a tax rate of only from 26 cents to 50 cents. There is a total of 9 schools which have a rate of \$1.26 to \$1.50.

There is quite a good deal of variation in the rate for building purposes. The median in Class A is 31½ cents. In the cases of Class B and Class C it is 28 cents; in Class D, 83 cents; in Class E, 47½ cents.

Perhaps the total tax rate represents the condition more thoroughly. Examining this table, it is to be noted that there are 15 schools which have a tax rate of only 51 cents to 75 cents, in fact, most of the schools have a total tax rate of less than \$1.00. The truth, however, is that in the case of township high schools the boards do not use their full taxing power. Looking at the bottom of the table, it will be seen that the median total tax rate in the case of Class A is 77 cents, and that 50 per cent of the schools in Class A expend only from 51 cents to \$1.08. In Class B the median is 89 cents, and the middle 50 per cent expend only from 76½ cents to \$1.41. In the case of Class C the median total tax rate is \$1.10, the middle 50 per cent expend only from 91 cents to \$1.27, and so on throughout the table.

The facts shown in Table XXX are shown graphically in Figure 13.

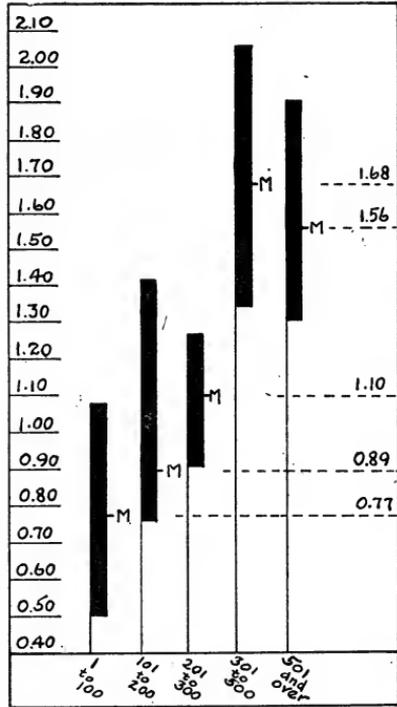
The relative situation in the various groups is shown in this graph. As heretofore, an equalized scale is shown at the left and a scale of medians at the right.

In this chapter the current expenses of the high schools in the State are studied in detail. It is found that these expenses increase directly as to the enrollment. It is also found that the township high schools expend more in the various groups than the city high schools do. Here as in the preceding chapters it is found that the deviation is greater in the township high schools than in the city high schools. It is also found in the case of the tax rate that the township high schools do not come anywhere near exhausting their resources. It is also shown that a division of the total tax rate in equal parts, for building purposes and for educational purposes, is an illogical division and that educators

should address themselves to the task of securing remedial legislation on this point.

It is clear from the foregoing considerations that the township high school provides in a financial way an adequate plan for taking care of the urgent burdens which have in the last quarter of a century grown up in

Fig. 13.—Total Tax Rates. The township high schools are classified at the bottom according to the number enrolled. The solid upright bars represent the total tax rates in township high schools from the first quartile to the third quartile. M represents the median total tax rate in each case. An equalized scale of the total tax rates is shown at the left and a scale of the median at the right.



connection with the management of secondary education. Remedial legislation should put the city high schools on the same basis, or at least a consistent policy, giving adequate financial support, should be provided for all of the high schools in the State.

## CHAPTER V.

### COURSE OF STUDY.

It is not the purpose of the present chapter to go into detail in the matter of investigating the curriculum of the high schools of the State. It is rather to discover the situation with reference to prescribed and elective courses, the frequency and breadth of the vocational courses, and to note the relative equipment of the various high schools as to the opportunities they provide in elective and vocational courses. It will be the plan to find out what the practice is in the township high schools of the various sizes.

In the pursuit of these ends, the first topic for consideration is the number of units required for graduation. This information is tabulated in Table XXXI, which is derived from Item 47 of the Approval Blank.

The sizes and kinds of schools are shown at the left of the table. It will be noted that there is one column devoted to the total number of schools, another to the schools omitted, and still another to schools reporting. This information is reported in the form of units. It will be noted that there is one vertical column headed, Less than 12, another 12, another 13, and so on. The table when read from left to right shows that in the city high schools of Class A there is one that requires less than 12 units for graduation, there are 10 which require 12 units for graduation, there are 2 which require 14 units for graduation, and so on throughout the table. It will be noticed in this connection that there is also a percentage column in all of the various groups. For example, there are 187 city high schools of Class A which require 16 units for graduation, which is 81.65 per cent of the number of schools reporting. Noticing the figures in the grand total, there are 444 schools which report on this section of the Approval Blank. That is, of 444 schools on this section of the Approval Blank, Class D of the Curriculum, there are 418 schools which report on this item. The percentages in each case are based upon the total number of schools reporting on this section.

An examination of this table shows very clearly that the city high schools and the township high schools are quite uniform in the number of units required for graduation. This is not only true in the schools of the different sizes but it is also true in the totals. For example, there are 262 city high schools which require 16 units for graduation or 79.63 per cent of all of the city high schools reporting on this section. There are 73 township high schools requiring 16 units for graduation or 82.02 per cent of all of the township high schools reporting on this item. The total result is that a little over 80 per cent of all of the high schools of the State require 16 units for graduation. It is to be noted, however,

TABLE XXXI—UNITS REQUIRED FOR GRADUATION—(APPROVAL BLANK NO 47).

	Total schools.		Schools omitted.		Schools reported.		Less than 12 units.		12		13		14		15		16		17		Over 17.		Total.
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
A	243	5.76	229	94.23	1	.43	10	4.36					2	.87	22	9.6	187	81.65	3	1.31	4	1.74	229
1-100	47	2.12	46	97.87			1	2.17							4	8.69	39	84.78	1	2.17	1	2.17	46
Total	290	5.17	275	94.82	1	.36	11	4					2	.72	26	9.45	226	82.18	4	1.45	5	1.81	275
B	68	5.88	64	94.11											13	20.31	50	78.12	1	1.56			64
101-200	20	5	19	95											3	15.78	16	84.21					19
Total	88	5.68	83	94.31											16	19.27	66	79.51	1	1.2			83
C	13	7.69	12	92.3											1	8.33	10	83.33	1	8.33			12
201-300	13	15.38	11	84.61											1	9.09	9	81.81	1	9.09			11
Total	26	11.53	23	88.46											2	8.09	19	82.5	2	8.09			23
D	11	9.09	10	90.9											3	30	6	60	1	10			10
301-500	11	9.09	10	90.9											3	30	7	70					10
Total	22	9.09	20	90.9											6	30	13	65	1	5			20
E	15	6.66	14	93.33											4	28.57	9	64.28	1	7.14			14
501-Over	3	5.55	3	100											1	33.33	2	66.66					3
Total	18	5.55	17	94.44											5	29.41	11	64.7	1	5.88			17
Total City H. S.	350	6	329	94	1	.3	10	3.03					2	.6	43	13.07	292	79.63	7	2.12	4	1.21	329
Total Twp. H. S.	94	5.31	89	94.68			1	1.12							12	13.48	73	82.02	2	2.34	1	1.12	89
Grand total	444	5.85	418	94.14	1	.23	11	2.63					2	.47	55	13.15	335	80.14	9	2.15	5	1.19	418

that a little over 13 per cent require 15 units for graduation, and a little over 2 per cent require 17 units for graduation.

Obviously the next topic to consider after noting the number of units that are required for graduation is to discover, if possible, the number of these units which are prescribed. This information was collected under Item 48 of the Approval Blank, and is displayed in Table XXXII.

The distribution of the schools as to kinds and sizes is shown at the top of the table; the distribution of units at the left side. In this report also the total number of schools which are reporting in this Section D on the curriculum is given. A horizontal column is also included for schools omitted.

It will be noted that in the city schools of Class A there are 4 high schools which prescribe only 4 units. There are 2 which prescribe 5 units, and thus the table is read throughout. In this the same as in the others the percentages are calculated, that is, noting that there are 14 city high schools of Class A which require 9 units for graduation, it is seen that 6.51 per cent of the schools of this class require 9 units for graduation. That is, this percentage is based on the number of schools reporting on this item. From this table the median, first quartile and third quartile are calculated. A glance at the table thus constructed shows that as the size of the school increases the number of prescribed units decreases. For example, 13 is the median requirement of units in the schools of Class A, 9 in Class B, 8 in Class C, 7 in Classes D and E. It will also be seen that the township high schools prescribe in the smaller schools such as Classes A and B a smaller number of units. In the light of other information which we have accumulated in other parts of this study, it is very likely that the township high schools in this case are able to prescribe a smaller number of units because of the larger number of courses that they can offer and their larger facilities in teaching force.

The next inquiry following upon the number of units that are prescribed is to discover what these prescribed units are. This is reported in Item 50 of the Approval Blank and is collected in Table XXXIII.

As previously suggested, there are 444 schools making report on this section. On this item the number of schools which are omitted in each case is shown in a separate column, and the number of schools reporting on this item is shown in still another column. The percentage of schools omitted and the percentage of schools reporting this item are also shown. This percentage is valuable in showing what proportion of the schools give the information, and we thus have a definite notion as to the value of the information submitted.

It will be seen that 45 per cent of the schools in the State have reported on this item, that is, there are 200 high schools. This is sufficient to give a satisfactory body of knowledge on which to base conclusions.

Another column is provided in which the total number of units prescribed is given. This information is tabulated for each of the large groups of subjects usually taught in high school, namely, English, Mathematics, Language, History, Science. In the case of History, for

TABLE XXXII—PRESCRIBED UNITS—(APPROVAL BLANK NO. 48).

	A 1-100						B 101-200						C 201-300						
	City H. S.		Twp. H. S.		Total		City H. S.		Twp. H. S.		Total		City H. S.		Twp. H. S.		Total		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Total schools.....	243		47		280		68		20		88		13		13		26		19,23
Schools omitted.....	28	11.52	8	17.02	36	12.41	9	13.23	4	20	13	14.77	1	7.69	4	30.76	5	19.23	
Schools reported.....	215	88.47	39	82.97	254	87.58	59	86.76	16	80	75	85.22	12	92.3	9	69.23	21	80.76	
Number units—																			
0.....																			
1.....																			
2.....																			
3.....																			
4.....	4	1.88			4	1.57	3	5.08	1	6.25	1	1.33							
5.....	2	.93			5	1.78	4	6.77	2	12.5	3	4							
6.....	2	.93			5	1.96	1	1.69	2	12.5	6	8							
7.....	5	2.32	2	7.68	7	2.75	7	11.86	1	6.25	3	4							
8.....	13	6.04	3	7.69	16	6.29	7	11.86	4	25	8	10.66							
9.....	14	6.51	7	17.94	21	8.26	11	18.64	1	6.25	11	14.66							
10.....	8	3.72	4	10.24	12	4.72	7	11.86	2	12.5	12	16							
11.....	16	7.44	7	17.94	23	9.05	6	10.16	2	12.5	9	12							
12.....	35	16.27	5	12.8	40	15.74	5	8.47	2	12.5	5	10.66							
13.....	16	7.44	3	7.69	19	7.48	5	8.47	1	6.25	5	6.66							
14.....	22	10.23	2	5.12	24	9.44	2	3.39	1	6.25	3	4							
15.....	10	4.65	2	5.12	12	4.72	1	1.69			1	1.33							
16.....	66	30.07	1	2.56	67	26.37													
Over 16.....	2	.93			2	.78													
Total.....	215		39		254		59		16		75		12		9		21		
Median.....	13		11		13		9		8		9		8		8		8		
First Quartile.....	11		7		9		7		6		7		6		7		7		
Third Quartile.....	16		12		14		11		10		11		10		8		10		

TABLE XXXII—Concluded.

	D 301-500						E 501-Over.						Total		Total City H. S.		Total Twp. H. S.		Grand total.	
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.								
Total schools.....	11	.....	11	.....	22	.....	15	.....	3	.....	18	.....	350	.....	94	.....	75	.....	444	.....
Schools omitted.....	5	45.45	1	2.09	6	27.27	3	20	2	66.66	5	27.77	46	13.1	19	20.21	65	14.63		
Schools reported.....	6	54.54	10	90.9	16	72.72	12	80	1	33.33	13	72.22	304	86.9	75	79.78	379	85.36		
Number units—																				
0.....	1	.....	1	10	1	6.25	2	16.66			2	15.28	2	.65	1	1.33	3	.79		
1.....																				
2.....	1	16.66	2	20	3	18.25														
3.....			1	10	1	6.25														
4.....			1	10	1	6.25														
5.....			1	10	2	12.5	1	8.33			1	7.69	9	2.3	3	4	4	1.33	4	.05
6.....	1	16.66	1	10	2	12.5	1	8.33			1	7.69	9	2.3	3	4	4	1.33	4	2.11
7.....	1	16.66	1	10	2	12.5	3	25			3	23.07	6	1.97	7	9.33	12	3.16	12	3.43
8.....	1	16.66	1	10	2	12.5							16	5.26	6	8	22	5.8	22	6.25
9.....			1	10	1	6.25	4	33.33			5	38.45	24	7.89	12	16	16	4.44	36	9.49
10.....			1	10	1	6.25			1	100			30	9.86	11	14.66	41	10.81	41	10.81
11.....	2	33.3	1	10	2	12.5							17	5.57	8	10.66	25	6.59	25	6.59
12.....													25	8.22	9	12	8	8.97	34	8.97
13.....													41	13.48	5	6.66	46	12.13	46	12.13
14.....													22	7.23	3	4	4	1.33	25	6.59
15.....													24	7.89	3	4	4	1.33	27	7.12
16.....													12	3.94	2	2.66	14	3.69	14	3.69
Over 16.....													66	21.71	1	1.33	67	17.67	67	17.67
Total.....	6	.....	10	.....	16	.....	12	.....	1	.....	13	.....	304	.....	75	.....	379	.....		
Median.....	7	.....	7	.....	7	.....	7	.....		.....	7	.....	12	.....	9	.....			11	.....
First Quartile.....	6	.....	4	.....	5	.....	6	.....		.....	6	.....	9	.....	5	.....			8	.....
Third Quartile.....	11	.....	8	.....	8	.....	9	.....		.....	9	.....	15	.....	11	.....			14	.....



TABLE XXXIII—Continued.

	A 1-100.						B 101-200						C 201-300						
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Units of History—Concluded.																			
4. Total units History.....	1	1.09	1	3.84	2	1.7	46	10	8	72.72	45	93.75	7	11½	15	100	18½	93.75	
153½ Total units Language—	153½		39		192½		37	100	1	9.09	1	2.08							
0. Total units Language—	0		0		0		0		0		0		0		0		0		
1. Total units Language—	1	41.75	13	50	51	43.58	37	100	1	9.09	1	2.08							
2. Total units Language—	2	2.19	2	7.69	4	3.41			1	9.09	1	2.08							
14. Total units Language—	14	32.96	6	23.07	36	30.76			1	9.09	1	2.08							
23. Total units Language—	23	12.08	5	19.23	16	13.57			1	9.09	1	2.08							
33. Total units Language—	33	10.98			10	8.54													
135 Total units Language	135		29		164		16		6		22		3		3		3		
Units of Science—																			
0. Total units Science—	0		0		0		0		0		0		0		0		0		
1. Total units Science—	1	12.08	5	19.23	16	13.67	37	100	3	27.27	40	83.33	3	33.3	1	14.28	4	25	
12. Total units Science—	12	13.18	5	19.23	17	14.52			4	36.36	4	8.33	4	44.44	1	28.57	6	37.5	
14. Total units Science—	14	1.09	1	3.84	2	1.7			1	9.09	1	2.08	1	11.11	1	14.28	1	6.25	
27. Total units Science—	27	29.67	10	38.46	37	31.61			3	27.27	3	6.25	1	11.11	2	28.57	3	18.75	
23. Total units Science—	23	6.59	6	5.12	6	5.12			1	9.09	1	2.08							
26. Total units Science—	26	28.57	5	19.23	31	26.49			2	17	2	2.08							
34. Total units Science—	34	2.19	2	7.69	4	3.41													
55. Total units Science—	55	5.49			5	4.27													
188 Total units Science.	188		41½		229½		39½		13		52½		10		8		18		
Units of Other Subjects—																			
0. Total units Other Subjects—	0		0		0		0		0		0		0		0		0		
1. Total units Other Subjects—	1	91.2	25	96.15	108	92.3	36	97.29	10	90.9	46	95.83	8	88.88	7	100	15	93.75	
4. Total units Other Subjects—	4	4.38	1	3.84	5	4.27													
2. Total units Other Subjects—	2	2.19	2	7.69	4	3.41			1	9.09	1	2.08							
14. Total units Other Subjects—	14	2.19			2	1.7			1	2.7	1	2.08							
2. Total units Other Subjects—	2	2.19			2	1.7													
23. Total units Other Subjects—	23								1	9.09	1	2.08							
3. Total units Other Subjects—	3																		
34. Total units Other Subjects—	34																		
7. Total units Other Subjects—	7		½		7½		2		3		6		1		1		1		

TABLE XXXIII—Continued.

	D 301-500						E 501-Over.						Total City H. S.		Total Twp. H. S.		Grand total.		
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Grand total.		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Total schools.....	11		11		22		15		3		18		350		94		444		
Schools omitted.....	5	45.45	7	63.63	12	54.54	7	46.66	2	66.66	9	50	199	56.85	45	47.87	244	54.95	
Schools reporting.....	6	54.54	4	36.36	10	45.45	8	53.33	1	33.33	9	50	151	43.14	49	52.12	200	45.04	
Total units prescribed.....	46		34½		80½		60		9½		69½		1,562		465½		2,027½		
Units of English—																			
0.....																			
1.....																			
2.....																			
3.....																			
4.....																			
Total units English.....	22		10		32		26		4		30		569		175		744		
Units of Mathematics—																			
0.....																			
1.....	1	16.66			1	10	1	12.5			1	11.11	40	26.5	1	2.04	41	20.5	
2.....			2	50	2	20	1	12.5			1	11.11	3	1.98	4	8.16	7	3.5	
3.....																			
4.....																			
Total units Mathematics.....	10½		6		16½		13½		3½		17		351		107½		468½		
Units of History—																			
0.....																			
1.....	3	50			3	30	1	12.5			1	11.11	61	40.39	9	18.36	70	35	
2.....			2	50	3	30	5	62.5			5	55.55	24	15.89	15	30.61	39	19.5	
3.....																			
4.....	1	16.66	2	50	3	30	2	25	1	100	3	33.33	43	28.47	21	42.85	64	32	
5.....	1	16.66			1	10							8	5.29	8	16	4	2	
6.....													12	7.94	2	4.08	14	7	
7.....													1	.66			1	.5	

TABLE XXXIII—Concluded.

	D 301-500				E 501-Over.				Total City H. S.		Total Twp H. S.		Grand total.		
	City H. S.		Twp H. S.		City H. S.		Twp. H. S.		No.	Per cent.	No.	Per cent.	No.	Per cent.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.							
	Total.		Total.		Total.		Total.		No.	Per cent.	No.	Per cent.	No.	Per cent.	
Units of History—Concluded.															
4. Total units History	5½		11½												
Units of Language—															
5	83.33	2	50	7	70	6	75	1	100	94	62.25	31	63.26	125	62.5
1		1	25	1	10					2	1.32	4	8.16	6	3
2						2	25			32	21.19	7	14.28	39	19.5
3										13	8.6	6	12.24	19	9.5
3½	16.66			1	10					10	6.62			10	5
4.		7		10		4				161		42		203	
Total units Language	3														
Units of Science—															
3	50	1	25	4	40	3	37.5			3	33.33	10	20.4	67	33.5
1		2	50	3	30	4	50	1	100	1	11.11	3	4.08	8	1.5
1½	16.66									21	13.9	13	26.53	34	17
2		1	25	3	30	1	12.5			1	.66	2	4.08	3	1.5
2½	33.3									31	20.52	16	32.65	47	23.5
3										6	3.97	3		6	3
3½										26	17.21	6	12.24	32	16
4										2	1.32	1		2	1
Total units Science	5														
Units of Other Subjects—															
6	100	2	50	8	80	6	75			6	66.66	44	89.79	183	91.5
1		1	25	1	10	1	12.5	1	100	5	3.31	3	6.12	8	4
1½		1	25	1	10	1	12.5			4	2.64	1	2.04	5	2.5
2										2	1.32	2		2	1
2½										1	.66			1	.5
3															
3½															
4		1½		1½		1½						1	2.04	1	.5
Total units Other Subjects	4									11½		5½		17	

example, those courses which are definitely related to History are included in this general head, that is, such subjects as Civics and Industrial History. History signifies in addition to its own proper courses such course as Industrial History, Civics, etc. Language means foreign language, Latin, French, German, etc. The topics which would not be included properly under these various major heads are tabulated separately under the caption "Other Subjects."

Under each of these various captions, vertical columns are provided indicating the number of units, for instance,  $\frac{1}{2}$  unit, 1 unit,  $1\frac{1}{2}$  units, and so forth. Opposite these in horizontal columns the number of schools which require the units indicated are given, and next to that the percentage of schools which require the number of units indicated is shown. For example in English 76 city high schools or 83.5 per cent city high schools of Class A require four years of English; nineteen high schools or 73.07 per cent of township high schools of Class A require four years of English and so on throughout. These percentages are based upon the number of schools reporting this item.

Examining the portion of the table devoted to English, 72.5 per cent of all the schools in the State require four years of English; 26.5 per cent require three years of English. This policy is very definite, as the table shows: Another thing that is noticed in connection with the English prescription is that as the school is smaller there is a greater percentage of the schools which require four years. This is very likely due to the fact that the smaller schools cannot provide a wide range of electives and, hence, require a larger percentage of such subjects as English, Mathematics, and so on. A negligible number of the schools of the State (.5 per cent of them) make no prescription in English.

Under the head of Mathematics it will be noted that the small schools in large numbers require  $2\frac{1}{2}$  and 3 years. The explanation here is similar to that noted under the head of English. The small schools do not have a large range of electives and, hence, must prescribe the academic subjects which they are required to teach. In Class A 26.49 per cent of the schools require  $2\frac{1}{2}$  units, 32.47 per cent require 3 units. There is a pretty definite tendency throughout the groups of schools to require 2 units, in fact, 30.5 per cent of all the schools in the State require 2 units, and 21 per cent require  $2\frac{1}{2}$  units. A large number of schools (20.5 per cent of them) make no requirement in Mathematics.

Under the head of History we note that 35 per cent of the schools of the State have no prescribed units in History. Where there is a prescription it is more likely to be 2 units, that is, there are 32 per cent of the schools in the State requiring 2 units; 19.5 per cent require 1 unit.

In Language a majority of the schools do not prescribe any work. In case there is a prescription it is more likely to be 2 units, as 19.5 per cent of the schools of the State require two years of work.

Where Science is required, the most frequent practice is to require 2 units. Of the schools of the State 23.5 per cent require 2 units. A comparatively large number require 1 unit, that is 17 per cent of the total, but a third of the schools of the State do not require any Science.

Under the head of Other Subjects it will be seen that there is a straggling tendency to require some other subjects besides the preceding ones.

There does not seem to be any uniform practice as distinguishing city high schools from township high schools in the kinds of subjects prescribed.

The information collected under Item 50 of the Approval Blank is displayed in another way in Table XXXIV.

In this table are shown the total number of units prescribed in the various sizes and kinds of schools. In addition to this separate columns show the total number of units prescribed in each of the various groups, that is, the total number prescribed in English, Mathematics, etc. The percentage of each of these various groups based upon the total prescribed groups is also shown. For example, in city high schools of Class A the total number of units prescribed in all of these schools is 1,062 $\frac{1}{2}$ . Of these 351 are prescribed in English, 228 are prescribed in Mathematics. The ratio that the prescribed units in English bears to the total prescribed units is 33.03 per cent. The same for Mathematics is 21.45 per cent. In a similar manner the table is read throughout.

By referring to the total figures shown at the bottom of the table, it is readily seen that the order in which the schools of the State prescribe these various groups is English, Mathematics, Science, History, Language, Other Subjects. Of all of the units prescribed 36.69 per cent are in English, 22.61 per cent of all the units prescribed are in Mathematics, and so forth. This same order is also preserved when we examine the totals for city high schools and township high schools separately except that in the township high schools Science and History are reversed.

The information in this table is shown graphically in Figure 14. In Figure 14 the first column at the left shows the subject under consideration. The second column shows the size of the school in each case. The third column shows the percentage which the number of units prescribed in each subject bears to the total number of units prescribed. For example, at the top of the graph it is noted that 33.03 per cent of the total prescribed units are in English in the case of the city high schools; 36.46 per cent of the total prescribed units are in English in the case of the township high schools. The prescribed units in the city high schools are represented graphically by the hollow bars; the prescribed units in the township high schools are shown by the solid bars. The order in which these various subjects are required stands out very clearly, as stated above, in an examination of this graph.

Looking at the graph in more detail it appears very readily that English is required to a larger extent in the city high schools than in the township high schools.

In Mathematics the township high schools prescribe more units in Classes A, B and E. In Classes C and D they prescribe less.

In the case of Science the township high schools prescribe a less number of units in Class A and Class E. They prescribe more in Classes B and D, and practically the same amount in Class C.

TABLE XXXIV—PRESCRIBED UNITS CONTINUED—(APPROVAL BLANK NO. 50)

	Total units prescribed.	Total units prescribed in English.		Total units in Mathematics.		Total units in History.		Total units in Language.		Total units in Science.		Total units in Other Subjects.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
A	1,082½	351	33.03	228	21.45	153½	14.44	135	12.7	188	17.69	7	.05
1-100	266	97	36.46	59	22.18	39	14.66	29	10.9	41½	15.6	½	.18
	Total.....	448	33.72	287	21.6	192½	14.49	164	12.34	229½	17.27	7½	.66
B	320½	137	42.74	80	24.96	46	14.35	16	4.99	39½	12.32	2	.62
101-200	97	40	41.23	25	25.77	10	10.3	6	6.18	13	13.4	3	3.09
	Total.....	177	42.39	105	25.14	56	13.88	22	5.26	52½	12.57	5	1.19
C	73	33	45.2	19	26.02	7	9.58	3	4.1	10	13.69	1	1.36
201-300	58½	24	41.02	15	25.64	11½	19.65	.....	.....	8	13.67	.....	.....
	Total.....	57	43.33	34	25.85	18½	14.06	3	2.28	18	13.68	1	.76
D	46	22	47.82	10½	22.82	5½	11.95	3	6.52	5	10.88	.....	.....
301-500	34½	10	28.98	6	17.39	6	17.39	7	20.28	4	11.69	.....	.....
	Total.....	80½	39.75	16½	20.49	11½	14.28	10	12.42	9	11.18	1½	1.86
E	60	26	43.33	13½	22.5	9	15	4	6.66	6	10	1½	2.5
501-Over	9½	4	42.1	2½	26.31	2	21.05	.....	.....	½	5.26	½	5.26
	Total.....	30	43.16	16	23.02	11	15.82	4	5.75	6½	9.35	2	2.87
Total City H. S.....	1,562	569	36.42	351	22.47	221	14.14	161	10.3	248½	15.91	11½	.73
Total Twp. H. S.....	465½	175	37.59	107½	23.09	63½	14.71	42	9.02	67	14.39	5½	1.18
Grand total.....	2,027½	744	36.69	458½	22.61	289½	14.27	203	10.01	315½	15.56	17	.83

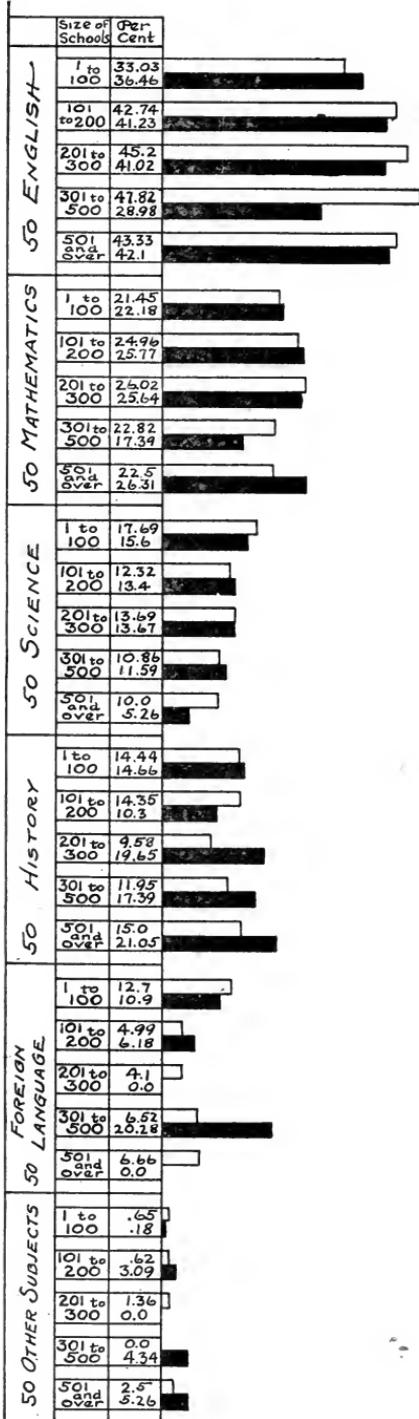
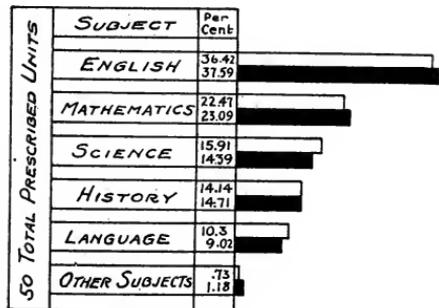


Fig. 14.—Prescribed units.—Distributed as to enrollment. In the vertical oblong spaces comprising the first vertical column are shown the number of the question in Form 2 from which the information is derived and subject represented in each respective section of the graph. The second vertical column in each section shows the classification of the schools based on the enrollment. The third vertical column shows the percentage which the number of units prescribed in each subject bears to the total number of units prescribed. The horizontal bars represent this percentage in each case. The hollow bars represent the city high schools and the solid bars the township high schools.

In History the township high schools prescribe markedly more in every case with the exception of Class B. This information is thrown up in still another form in graph 15, in which the total prescribed units are shown. The subjects are shown in the second column and the percentages in the third. The graphs can best be read as, for example, 36.42 per cent of the total prescribed units in the city high schools are in English; 37.59 per cent of the total prescribed units in the township high schools are in English. These facts are shown graphically in that the percentage for city high schools is represented by the hollow bar, and the percentage for the township high schools, by the solid bar. It is very clear that the township high schools require more English and more Mathematics than the city high schools. They require less Science and Language. The requirement in History is practically the same.

An obvious corollary to the number of units that are prescribed in the various subjects is the number of elective units.

Fig. 15.—Prescribed Units.—Totals. In the first vertical oblong space at the left is shown the number of the question in Form 2 from which the information is derived and the subject of the graph. The second vertical column shows the percentage which the number of units prescribed in all the schools of a given group in each subject bears to the total number of units prescribed in the given group. The horizontal bars represent their percentage in each case. The hollow bars represent the city high schools and the solid bars represent the township high schools.



This information was collected under Item 49 of the Approval Blank and is collated in Table XXXV.

In this table the sizes and kinds of schools are shown at the top of the table. The total number of schools, furnishing information on this section is 444. There is also a column for the schools omitted and the schools reporting, with the percentage calculated in each case. In the body of the table is distributed the number of schools in each kind and class offering a certain number of electives. For example, in city high schools of Class A there are 7 which offer no electives, which is 4.72 per cent of the number of schools reporting on this item. There are 6 schools which offer 1 elective, which is 4.05 per cent of the schools reporting on this item. In a similar manner the table is read throughout.

At the bottom of the table the median, first quartile and third quartile are calculated. An examination of this part of the table shows that the smaller the school the smaller the number of electives offered. The median number of electives in city high schools of Class A is 4; Class B, 6; Class C, 7; Class D, 9. This is due to the fact that the smaller high schools do not have the teaching force or the equipment to offer a large





number of electives. It will also be noted that the township high schools offer a larger number of electives than the city high schools. For example, in Class A the median number of electives in the township high schools is 5 whereas the median number of electives in the city high schools in the corresponding group is 4. An examination of the other groups shows the same situation, except that in Class D the township high schools and the city high schools do not vary largely in this respect.

Following up this same line of inquiry, it is interesting to note how many courses are offered. In neither of these blanks was the information shown in such form that the number of units in each subject offered could be tabulated. The closest approach to this was the high school courses offered on the first page of Form 2. The question is asked in this form, "High School Courses offered . . . . . indicate by X and give length." Under this head is a small table with the names Academic, Commercial, Technical (M. T.), Agriculture, and Domestic Economy, with a space for the number of years for each of these courses.

On cursory examination of the material provided in this space it would seem that this would not give us very definite information yet a complete tabulation of it does give information that is very dependable for comparative purposes. It is all the more dependable because all of the high schools (457 of them) report on this item. This information is collected and tabulated in Table XXXVI.

In this table the size and kinds of schools are shown at the top of the table. Below this portion of the table is a horizontal column for the number and percentages of schools offering one year, for example of commercial work, the number and percentage offering two years, and so on up to and including four years. Then following this there is a column for the total number of schools offering commercial work. A similar column is provided for each of the other subjects.

In addition to the columns mentioned there is a horizontal column for the total number of years possible to offer high school work. This is found by multiplying the number of schools by four. For example, there are 254 city high schools of Class A, hence, there are 1,016 possible years of work in this group of high schools. Below this column is the total number of years commercial work is offered. For example, in city high schools of Class A there are 79 years of commercial work all told offered in this group of schools. The next column shows the percentage of commercial work based upon the total time possible, that is, 79 years of commercial work offered is 7.8 per cent of 1,016, the total time possible. This method is followed in the case of every subject tabulated, and for a proper reading of this table it is important that this fact be remembered.

The information comprised in Table XXXVI is shown graphically in Figures 16, 17 and 18.

The first fact that is to be noted in an examination of this table is that the number of years of academic work offered is exactly the same in all of the various groups of schools. Looking at the table more in detail, we note that in Class A in commercial work city high schools tend to offer one year and the township high schools two years. This information is found by noting the percentage of schools that offer the various amounts

TABLE XXXVI—COURSES OFFERED—(FORM 2, NO. 1).

	A 1-100						B 101-200						C 201-300								
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.				
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.			
Academic—																					
Number of schools.....	254		46		300				67		23		90				11		13		24
Number schools offering one year.....																					
Number schools offering two years.....																					
Number schools offering three years.....																					
Number schools offering four years.....																					
Total number schools offering Academic work.....	254	100	46	100	300	100	67	100	23	100	90	100	11	100	13	100	24	100			
Total number years possible to offer high school work.....	1,016		184		1,200		268		92		360		44		52		96				
Total number of years Academic is offered.....	1,016		184		1,200		268		92		360		44		52		96				
Percentage ratio of Academic work offered to total time possible.....		100		100		100		100		100		100		100		100		100			
Commercial—																					
Number schools offering one year.....	20	7.9	1	2.2	21	7	8	11.9	4	17.4	12	13.3									
Number schools offering two years.....	3	1.2	3	6.5	6	2	9	13.4	2	8.7	11	12.2	3	27.3	4	30.8	7	29.1			
Number schools offering three years.....	3	1.2			3	1	2	3	2	8.7	4	4.4									
Number schools offering four years.....	11	4.3	8	17.4	19	6.3	13	19.4	5	21.7	18	20	4	36.4	6	46.2	10	41.7			
Total number schools offering Commercial work.....	37	14.6	12	28.3	49	16.3	32	47.8	13	56.5	45	50	7	63.6	10	76.9	17	70.8			
Total number years possible to offer high school work.....	1,016		184		1,200		268		92		360		44		52		96				
Total number years Commercial work is offered.....	79		39		118		84		34		118		22		32		54				

TABLE XXXVI—Continued.

	A 1-100				B 101-200				C 201-300						
	City H. S.		Total.		City H. S.		Twp H. S.		City H. S.		Twp H. S.		Total.		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Commercial—Concluded.															
Percentage ratio of commercial work offered to total time possible.....		7.8		21.2		9.8		31.3		37		32.8		61.5	
Technical—															
Number schools offering one year.....	2	2.8	2	4.3	3	3	4.5	2	8.7	5	5.6	1	9.1	1	4.1
Number schools offering two years.....	14	5.5			14	4.7	13.4	4	17.4	13	14.4	4	36.6	4	30.8
Number schools offering three years.....															
Number schools offering four years.....	4	1.6	2	4.3	6	2	6	4	17.4	8	8.9	1	9.1	6	46.2
Total number schools offering Technical work.....	25	9.8	4	8.7	29	9.7	23.9	10	43.5	26	28.9	6	54.5	10	76.9
Total number years possible to offer high school work.....	1,016		184	1,200	61		37		26	360		44		52	96
Total number years Technical work is offered.....	51		10		61		37		26	63		13		32	45
Percentage ratio of Technical work offered to total time possible.....		5		5.4		5.1		13.8		28.3		17.5		61.5	46.9
Agriculture—															
Number schools offering one year.....	12	4.7	2	4.3	14	4.7	11.9	5	21.7	13	14.4	1	9.1	1	7.1
Number schools offering two years.....	6	2.4	5	10.9	11	3.7	1	1.5	4	17.4	5	5.6		3	23.1
Number schools offering three years.....														1	7.1
Number schools offering four years.....	3	1.2	2	4.3	5	1.7			1	4.3	1	1.1		4	30.8
Total number schools offering Agriculture.....	21	8.3	9	19.6	30	10	14.9	10	43.5	20	22.2	1	9.1	9	69.2
Total number years possible to offer high school work.....	1,016		184	1,200			268		92	360		44		52	96
Total number years Agriculture is offered.....	36		20		56		13		17	30		1		26	27

Percentage ratio of Agriculture offered to total time possible.....	3.5	10.9	4.7	4.9	18.5	8.3	2.3	50	28.1
Domestic Science—									
Number schools offering one year.....	7	8.7	11	.9	3	9	1	.....	1
Number schools offering two years.....	11	19.6	20	13.4	4	13	4	38.5	4.1
Number schools offering three years.....	3	.....	3	.....	1	1	.....	.....	27.5
Number schools offering four years.....	2	.....	6	.....	5	9	1	.....	.....
Total number schools offering Domestic Science.....	23	8.7	2	6	13	32	10	46.2	29.1
Total number years possible to offer high school work.....	1,016	36.9	13.3	28.3	92	360	6	84.5	70.8
Total number years Domestic Science is offered.....	46	1,200	.....	.....	34	74	44	52	96
Percentage ratio of Domestic Science offered to total time possible.....	4.5	.....	.....	.....	.....	.....	.....	.....	.....
Total number years possible to offer high school work.....	1,016	20.7	7	14.9	37	.....	20.6	65.4	49
Total number years Vocational work offered.....	212	.....	.....	.....	111	285	44	.....	96
Percentage ratio of Vocational work offered to total time possible.....	20.9	58.2	28.6	64.9	120.7	.....	111.4	238.5	180.2

TABLE XXXVI—Continued

	D 301-500				E 501-Over.				Total City H. S.		Total Twp. H. S.		Grand total.					
	City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Grand total.			
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.		
Academic—																		
Number of schools.....	11		13		24		16		3		19		359		98		457	
Number schools offering one year.....																		
Number schools offering two years.....																		
Number schools offering three years.....																		
Number schools offering four years.....	11	100	13	100	24	100	16	100	3	100	19	100	359	100	98	100	457	
Total number schools offering Academic work.....	11	100	13	100	24	100	16	100	3	100	19	100	359	100	98	100	457	
Total number years possible to offer high school work.....	44		52		96		64		12		76		1,436		392		1,828	
Total number of years Academic is offered.....	44		52		96		64		12		76		1,436		392		1,828	
Percentage ratio of Academic work offered to total time possible.....		100		100		100		100		100		100		100		100		
Commercial—																		
Number schools offering one year.....													28	7.8	5	5.1	33	7.2
Number schools offering two years.....			3	23.1	3	12.5	2	12.5	1	33.3	3	15.8	17	4.7	13	13.3	30	6.6
Number schools offering three years.....							3	18.8			3	15.8	8	2.2	2	2	10	2.2
Number schools offering four years.....	8	72.7	8	61.5	16	66.6	11	68.8	2	66.6	13	68.4	47	13.1	29	29.6	76	16.6
Total number schools offering Commercial work.....	8	72.7	11	84.6	19	79.1	16	100	3	100	19	100	100	27.9	49	50	149	32.6
Total number years possible to offer high school work.....	44		52		96		64		12		76		1,436		392		1,828	
Total number years Commercial work is offered.....	32		38		70		57		10		67		274		153		427	
Percentage ratio of Commercial work offered to total time possible.....		72.7		73.1		72.9		89.1		83.3		88.2		19.1		89		23.4



TABLE XXXVI—Concluded.

	D 301-500						E 501-Over.						Total City H. S.		Total Twp. H. S.		Grand total.	
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		No.	Per cent.	No.	Per cent.	No.	Per cent.
	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Total number years Domestic Science is offered.....	23	.....	28	.....	51	.....	56	.....	4	.....	60	.....	178	.....	138	.....	316	.....
Percentage ratio of Domestic Science offered to total time possible.....	52.3	.....	53.8	.....	53.1	.....	87.5	.....	33.3	.....	78.9	.....	12.4	.....	35.2	.....	1,828	.....
Total number years possible to offer High school work.....	44	.....	52	.....	96	.....	64	.....	12	.....	76	.....	1,436	.....	396	.....	1,828	.....
Total number years Vocational work offered.....	89	.....	96	.....	185	.....	139	.....	30	.....	169	.....	663	.....	468	.....	1,131	.....
Percentage ratio of Vocational work offered to total time possible.....	202.3	.....	184.6	.....	192.7	.....	217.2	.....	250	.....	222.4	.....	46.2	.....	119.4	.....	81.9	.....

of work. In Class B both city high schools and township high schools in larger proportion offer four years. In Class C both city high schools and township high schools in larger proportion offer four years. In Class D city high schools in larger number offer four years, and township high schools two years. In Class E the larger proportion of both township high schools and city high schools offer four years. The total result is that the township high schools offer the largest amount of commercial work in every class except Class E.

In technical work the largest proportion of city high schools offer two years; township high schools, four years. In Class B the largest proportion of city high schools offer two years, and the township high schools in almost equal number offer two years and four years. In Class C the city high schools offer two years in larger proportion and the township high schools four years. In Class D both city and township high schools in larger proportion offer two years. In Class E both groups of schools in larger proportion offer four years. It will be noted that in technical work the tendency is to offer either two years or four years of the work. In this subject the township high schools offer the largest amount of work in every case except Class E.

In Agriculture in Class A the township high schools in larger number offer one year and the city high schools two years. In Class B the largest percentage in each group offer one year. In Class C city high schools offer one year in larger proportion and the township high schools offer two. In Class D the city high schools are evenly distributed in their offerings of one, two and four years. The township high schools in larger proportion offer one year. The total situation in this group is that the tendency is to offer one and two years in Agriculture, and the township high schools offer more in every instance except in Class D.

In Domestic Science the tendency in both city and township high schools is to offer two years. In Class B the city high schools in larger proportion offer two years and the township high schools four years. In Class C the larger proportion of city high schools offer two years and the township high schools four years. In Class D the city high schools in larger proportion offer four years and the township high schools two years. In Class E both city and township high schools in larger proportion offer four years. In the total it is noticed that all schools have a tendency in larger proportion to offer two years, and the second choice is four years. In this department the township high schools offer more in every case except in Class E. An examination of the graphs referred to above brings out the information in a more marked form.

Graph 16 is constructed by providing a column at the left in which is written the subject represented, next is the size of the school, and following this is the percentage of time offered in each subject, based upon the total high school time possible, calculated in the manner heretofore described. Following this the percentage is represented in the city high school by the hollow bar, and the situation in the township high schools is represented by the solid bar.

This graph reinforces the statement made above that all of the schools involved show the same amount of time devoted to academic subjects.

In commercial work the township high schools offer more work than the city high schools except in Class E. In technical work the township

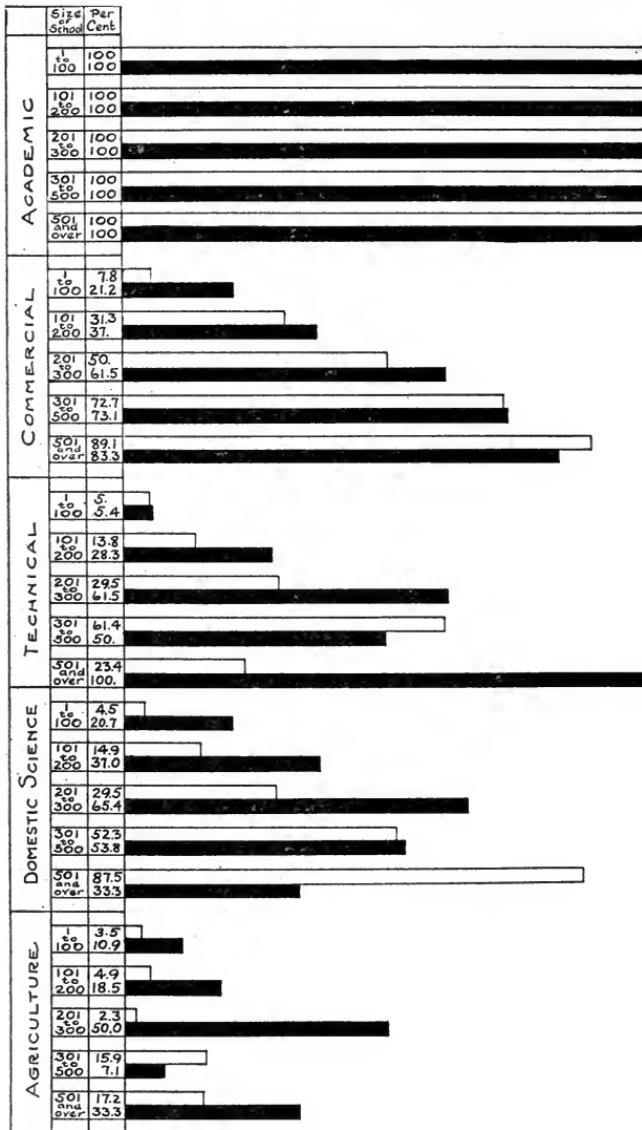


Fig. 16.—Courses offered—classified according to size of schools. In the vertical oblong spaces which comprise the first vertical column is written the name of the subject which is represented in its respective section of the graph. In each section of the second vertical column is shown the classification of the schools according to enrollment. The third column shows the percentage of time offered in each subject in each graph of schools based on the total high school time possible. This percentage is represented by the horizontal bars. The hollow bars represent the city high schools and the solid bars represent the township high schools.

high schools offer much more work than the city high schools except in Class D. In Domestic Science the township high schools offer more work

than the city high schools except in Class E. In the first three classes, namely A, B and C, the excess amount of Domestic Science offered by the township high schools is very marked. In the matter of Agriculture the excess amount of work in the township high schools as compared with that offered in the city high schools is very marked in every case except Class D.

In graph 17, the graph is constructed by providing first a column for the subject, academic, commercial, etc. The adjacent column shows the percentage of the time devoted to the subject in question, based upon the total high school time possible. This graph shows in a very marked form the fact that in all vocational work the township high schools offer much larger time allotments than the city high schools.

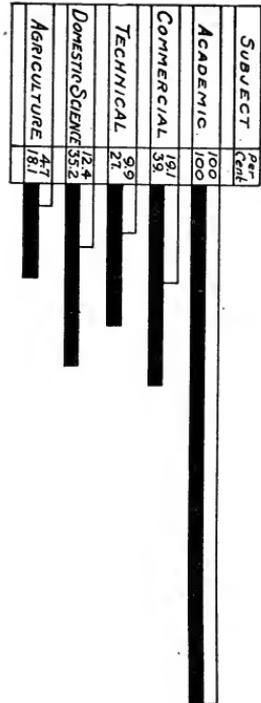


Fig. 17.—Courses offered—Totals. The subjects are designated in the horizontal spaces to the left. The second column shows the percentage the amount of work offered in each subject bears to the total time possible in each kind of schools. The horizontal bars represent this percentage. The hollow bars represent the city high schools and the solid bars represent the township high schools.

The same information is again displayed in still different form in graph 18. In this graph all of the vocational work is shown. The vocational work is the sum of all the lines of work shown in the table except the academic. The first column is devoted to the size of school; the second column is for percentages, that is, the percentage of time allotted to vocational work, the sum of the time devoted to commercial, domestic science and agriculture in the aggregate. For example, in Class A city high schools offer 20.9 per cent of the total time possible for high school work; township high school offer 58.2 per cent of the total time possible for high school work. This situation is represented by the

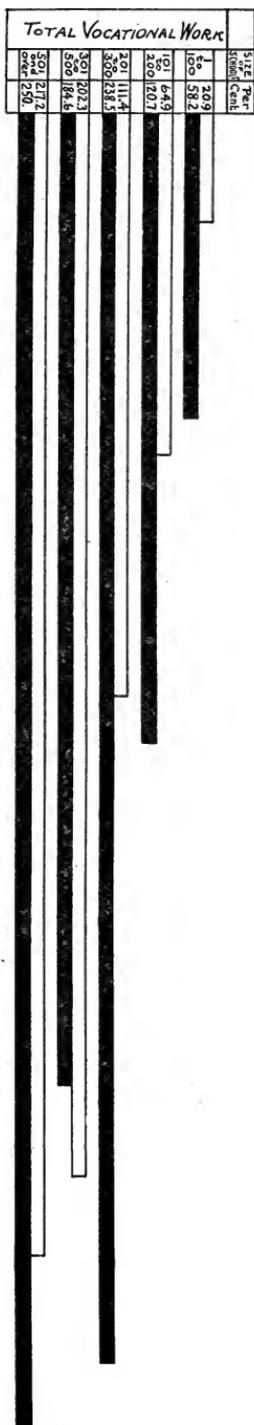


Fig. 18.—Total vocational work. The first vertical column shows the classification of high schools based on enrollment. The second vertical column shows the percentage of total vocational work based on the total time possible. These percentages are represented by horizontal bars. The hollow bars represent the city high schools and the solid bars the township high schools.

bars at the right. The hollow bar represents the situation in the city high schools, and the solid bar the situation in the township high schools.

From a consideration of the foregoing facts certain general conclusions may be drawn. The larger the high school the smaller the number of prescribed units laid down. The larger the high school the larger the number of electives offered. The larger high schools provide wider opportunities for vocational work. The township high schools offer wider opportunities for vocational work than the city high schools. This is true whether we consider the various sizes of high schools separately or whether we consider the whole number of high schools in the study as a whole. It is in considerations such as these that we must make a corollary with the work of preceding chapters. In Chapters 2, 3 and 4 we found that costs in every category in the township high schools were higher than in the city high schools. Corresponding with that situation in this chapter we find that the opportunities provided are more extensive, there are a large number of electives and these electives cover a wider field. The opportunity for vocational training is much more extensive in the township high schools than in the city high schools.

## CHAPTER VI.

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### THE PRINCIPAL.

In our discussion heretofore we have had to do primarily with the material factors in the high school organization. We must now turn our attention to the personnel of the high schools of the State, that is, to the executive officers and to the teachers and the students. The topic for this chapter is the discussion of the experience, training, duties and salary of the principal. In the reports to the Department of Public Instruction upon which these studies were based there is no adequate account of the training of the principals. Rather accurate information is given regarding the training of teachers but the blanks are not specific enough to base confident conclusions on that part that has to do with the training of principals and superintendents. The only information available is that which has to do with the degrees of the principals. This information is tabulated in Table XXXVII.

This table reports in one horizontal column the number of schools, in another the number who do not report, in another the number of those who do report, and in another the number who report but fail to report information on this item.

By referring to the table it will be seen that 450 schools are involved in this study. Of these, 114 do not report upon this section. There are 335 schools which report on this section. Of this latter number, 150 do not report on the item of the degrees. In the remainder of the table in the various columns are shown the number and percentage of principals receiving the various degrees indicated. Only those degrees more usually granted are tabulated. The degree A. M. is reported as A. M. whether it is written "A. M." or "M. A.;" likewise M. S. It will be noticed that there is a column for Total Degrees. This is the sum of all the degrees in the preceding columns. Under the head of Extra Degrees are listed those degrees which are in addition to other degrees held by the same individual. The last column is marked Blank Degrees. This includes all of those cases which report the information on this item but leave the space for degrees blank.

Noting the situation in the city high schools in Class A, if the extra degrees are subtracted from the total degrees as, for example, 3 subtracted from 57 and the blank degrees added, we have a sum equal to the number of schools reporting, and the information is accurately checked. Some minor discrepancies will be found in the table due to errors in tallying. These discrepancies, however, are of negligible importance. The percentages noted in the table are calculated on the basis of the total number of degrees.



TABLE XXXVII—Concluded.

	D 301-500						E 501-Over.						Total City H. S.		Total Twp. H. S.		Grand total.	
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Grand total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Number of schools.....	11		11		22		15		3		18		356		94		450	
Number not reporting.....	1		1		1		2				2		103		11		114	
Number schools reporting.....	10		11		21		13		3		16		246		89		335	
Number reporting but not report- ing degrees.....	1				1		3				3		127		23		150	
Degrees—																		
A. B.....	6	60	4	29	10	41.7	6	54.5	2	50	8	53.3	74	56.4	44	57.1	118	56.7
B. S.....	1	10	2	14	3	12.5	4	36.4	2	50	6	40	31	23.7	11	14.3	42	20.2
B. L.....																		
Ph. B.....	1	10	3	21.4	4	18.7							5	3.8	5	6.5	10	4.8
B. E.....							1	9			1	6.7	2	1.5			2	1
A. M.....	2	20	4	29	6	25							12	9.2	11	14.3	23	11.1
M. S.....													1	.8	3	3.9	4	1.9
Ph. D.....			1	7.1	1	4.2							6	4.6	1	1.3	1	.5
Others.....																		
Total degrees.....	10		14		24		11		4		15		131		77		208	
Extra degrees.....	1		3		4		1		2		3		12		12		24	
Blank degrees.....	1				1		3				3		127		23		150	

It will be noticed on an examination of this table that 56.7 per cent of all the degrees granted to high school principals are A. B. degrees, 20.2 per cent are B. S. degrees, 11.1 per cent are A. M. degrees. An important fact to be noticed is the relatively small number of post graduate degrees. Another fact that may be noted is that in the case of Class A there is a smaller number of A. B. degrees in the case of township high schools than in the case of city high schools. The total, however, shows a larger percentage of township high schools having degrees than city high schools.

A similar distribution of the degrees was worked out for the superintendents of schools since this information was provided on the same blank. This is of no particular value to us in our present study except for comparative purposes.

It will be noted in Table XXXVIII, in which this information is presented, that very few reports are made for township high schools.

This is because of the fact that in only a few cases does the superintendent of the elementary schools supervise also the high schools. In a few of these cases reports were made concerning the largest elementary schools in the township high school districts even though the superintendent in such case had no connection with the township high school.

The table is made up in exactly the same way as the preceding one. It will be noticed that 54.1 per cent of the degrees granted are A. B. degrees; 15 per cent are B. S. degrees. It will be noted that there are a larger number of post graduate degrees for superintendents than principals, in fact, 15 per cent of the degrees are A. M.

The experience of the high school principals of the State is compiled from Item 43 of the Approval Blank, and is shown in Table XXXIX.

In this table the number of schools making the report are shown in the horizontal column at the top immediately below the classification of school. The next horizontal column marked "Blank" gives the number and percentages of cases in each group in which this part of the report is left blank. The purpose of this latter item is to show the relative volume of accurate information which is available. It will be noticed in the total that there are 118 schools of the 450 who do not report this information. It will be thus seen that the information comes from a relatively large proportion of the schools of the State, that is, 342. The table itself provides a column for each of the years of experience up to 20 and then one column for over 20. In each of these columns the number of principals in each group having a specific number of years of experience is set down. The table may be read down or across. Reading down, there are 8 principals of high schools in Class A who have had one year of school experience, 10 who have had two years' experience, 9 who have had three years' experience, and so forth. The table may be read similarly throughout. At the bottom of the table is shown the median experience in each group, the first quartile, the third quartile, and the quartile deviation. The first third of the table is devoted to a discussion of the total school experience of these high school officials, the second third to their total high school experience, and the third third is devoted to the experience the executive officers have had in their present positions.

TABLE XXXVIII—DEGREES OF SUPERINTENDENTS—(APPROVAL BLANK NO. 43).

	A 1-100						B 101-200						C 201-300						
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Number of schools.....	248		47		295		69		20		89		13		13		26		13
Number not reporting.....	133		37		170		5		12		17		1		13		14		14
Number reporting.....	115		10		125		64		8		72		12				12		12
Number reporting but not reporting degrees.....	72		5		77		30		2		32		6				6		6
Degrees.....																			
A. B.....	31	60.8	3	60	34	60.7	22	55	3	42.9	25	53.2	2	22.2			2		22.2
B. S.....	9	17.6	1	20	10	17.9	9	22.5			9	19.1	1	11.1			1		11.1
B. L.....																			
Ph. B.....	2	3.9			2	3.6	2	5	1	14.3	3	6.4	3	33.3			3		33.3
B. E.....	1	2			1	1.8													
A. M.....	3	5.9	1	20	4	7.1	6	15	2	28.6	8	17	2	22.2			2		22.2
M. S.....	1	2			1	1.8			1	14.3	1	2.1	1	11.1			1		11.1
Ph. D.....																			
Others.....	4	7.8			4	7.1	1	2.5			1	2.1							
Total degrees.....	51		5		56		40		7		47		9		9		9		9
Extra degrees.....	8				8		6		1		7		3		3		3		3
Blank degrees.....	72		5		77		30		2		32		6		6		6		6

TABLE XXXVIII—Concluded.

	D 301-500						E 501-Over						Total		Total City H. S.		Total Twp. H. S.		Grand total.	
	City H. S.		Twp H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Grand total.			
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.		
	City H. S.		Twp H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Grand total.			
Number of schools.....	11	.....	11	.....	22	.....	15	.....	3	.....	18	.....	356	.....	94	.....	450	.....		
Number not reporting.....	2	.....	11	.....	13	.....	5	.....	3	.....	8	.....	146	.....	76	.....	222	.....		
Number reporting.....	9	.....	.....	.....	9	.....	10	.....	.....	.....	10	.....	210	.....	18	.....	228	.....		
Number reporting but not reporting degrees.....	3	.....	.....	.....	3	.....	2	.....	.....	.....	2	.....	113	.....	7	.....	120	.....		
Degrees—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
A. B.....	5	62.5	.....	.....	5	62.5	6	46.2	.....	.....	6	46.2	66	54.5	6	50	72	54.1		
B. S.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	15.7	1	8.3	20	15		
B. L.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Ph. B.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
B. E.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
A. M.....	3	37.5	.....	.....	3	37.5	3	23.1	.....	.....	3	23.1	17	14	3	25	20	15		
M. S.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Ph. D.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Others.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Total degrees.....	8	.....	.....	.....	8	.....	13	.....	.....	.....	13	.....	121	.....	12	.....	133	.....		
Extra degrees.....	2	.....	.....	.....	2	.....	5	.....	.....	.....	5	.....	24	.....	1	.....	25	.....		
Blank degrees.....	3	.....	.....	.....	3	.....	2	.....	.....	.....	2	.....	113	.....	7	.....	120	.....		

TABLE XXXIX—EXPERIENCE OF PRINCIPALS—(APPROVAL BLANK NO. 43).

	A 1-100				B 101-200				C 201-300					
	City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Total experience—	248	41.1	47	4.3	295	35.3	69	10.1	20	7.9	89	7.7	13	23.1
Number schools	102		2		104		7		1		7		3	
Blanks.....														
Years of experience—														
1.....	8		5		8		3		1		4		13	
2.....	10		1		15		5		1		6		3	
3.....	9		1		10		5		1		6		1	
4.....	12		1		13		9		6		15		1	
5.....	8		4		12		6		1		6		1	
6.....	13		4		13		4		1		5		1	
7.....	5		3		8		4		1		6		1	
8.....	8		5		13		4		1		5		1	
9.....	3		2		5		4		1		2		2	
10.....	1		3		4		2		1		2		1	
11.....	2		3		5		1		3		4		2	
12.....	5		5		5		5		1		6		2	
13.....	7		7		7		2		2		2		1	
14.....	5		2		7		7		1		7		1	
15.....	7		1		7		1		1		1		1	
16.....	3		3		4		4		3		8		1	
17.....	5		1		8		2		2		2		1	
18.....	3		1		4		1		1		1		1	
19.....	5		5		5		1		1		1		1	
20.....	6		5		11		6		1		7		1	
Over 20.....	21		6		27		6		1		7		5	
Total.....	146		45		191		62		20		82		12	
Median.....	8		10		6		6		7		11		11	
First Quartile.....	4		6		4		4		4		8		8	
Third Quartile.....	17		19		12		12		10		15		15	
Quartile Deviation.....	6½		6½		6½		4		3		4		3½	
Total high school experience—	248	7.7	47	4.3	295	7.1	69	10.1	20	9	89	7.7	13	23.1
Blanks.....	19		2		21		7		1		8		3	
Years of experience—														
1.....	11		2		13		6		1		7		1	
2.....	26		4		30		5		1		6		3	
3.....	12		4		16		11		1		12		1	



TABLE XXXIX—Continued.

	A 1-100						B 101-200						C 201-300						
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Experience—Concluded.	2		2		2		2		2		2		3		5		4		4
Median.....	1		1		1		1		1		1		2		3		2		2
First Quartile.....	3		3		3		4		4		4		4		7		6		6
Third Quartile.....																			

TABLE XXXIX—Continued.

	D 301-500						E 501-Over.						Grand total.						
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		Total City H. S.		Total Twp. H. S.		Grand total.		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Total experience—	11	9.1	11		22	4.5	15	13.3	3		18	11.1	356	31.7	94	5.3	450	26.2	
Number schools.....	1		1		1		2		2		2		113		5		118		
Blanks.....																			
Years of experience—																			
1.....																			
2.....																			
3.....																			
4.....																			
5.....																			
6.....	2		2		2		1		1		1		15		2		12		12
7.....	1		1		1		1		1		1		15		2		21		21
8.....	1		1		1		1		1		1		23		7		17		17
9.....													17		4		30		30
10.....													18		2		20		20
11.....													11		6		20		20
													14		6		20		20
													5		4		9		9
													3		4		7		7
													5		7		12		12



TABLE XXXIX—Concluded.

Experience—Concluded— Years of experience—	D 301-500						E 501-Over.						Total City H. S.		Total Twp. H. S.		Grand total.	
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		No.	Per cent.	No.	Per cent.	No.	Per cent.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.						
1.....	3		2		5							88		30		118		
2.....	1		1		2		1					57		16		73		
3.....			1		1		1					24		12		36		
4.....	1		2		3		2					20		5		25		
5.....	2				2		1					16		5		21		
6.....	1		1		2							6		5		11		
7.....							1					3		3		6		
8.....							1					8		2		10		
9.....							2					4		2		6		
10.....	1				1							2				2		
11.....			1		1							2		1		3		
12.....			2		2							2		2		4		
13.....							1									1		
14.....												1				1		
15.....			1		1							1		1		2		
16.....												1				1		
17.....																		
18.....	1				1													
19.....							1											
20.....																		
Over 20.....																		
Total.....	10		11		21		1		1		1	5		1		6		
Median.....	5		4		4		13		1		3	5		1		1		
First Quartile.....	1		3		4		8		20		9	245		2		2		
Third Quartile.....	6		12		9		4		2		4	2		2		1		
							13				19	4		5		4		

\* Over twenty.

Examining first the total experience of the high school principals, it is noted that in every class the township high school principals have had more experience than the city high school principals. In looking at one of the classes, as for example Class D, it is noted that in the township high schools the median experience of the principal is 15 years, and the experience of the middle 50 per cent is from 11 to 19 years.

With reference to the total high school experience, an examination of the middle portion of the table shows that there is a tendency for the schools of larger size to have principals with longer high school experience. This is true of the table as a whole yet it is not true of it in detail. For example, principals of schools of Class B have a shorter experience than those of Class A. Similarly principals of schools of Class D have a shorter experience than those of Class C. But in general the statement is true that the larger the school the greater the experience of the principal. In every group the township high school principal has had longer experience than the city high school principal. It is to be noted that 7 years is the median high school experience of all the principals in the State and that 50 per cent of the principals of the State have had from 3 to 12 years of experience.

Upon examining the last portion of the table with reference to the number of years in the school over which the principal now presides, a remarkable situation is shown, namely, that the tenure of office of the high school principal in Illinois generally speaking is very short. It will be noted that the median tenure of office for the State as a whole is two years and that 50 per cent of the high school principals in the State occupy their position from one to four years. Here as before, the larger the school the longer the principal is retained in his position. There is, however, very little difference in this respect between Class A and B. These two classes are practically uniform, that is, the median tenure of office is 2 years. The median tenure of office for Classes B and C also is identical, namely, 4 years. In Classes C and E the tenure of office of the township high school principal is longer than that of the city high school principal. In the case of Class D the city high school principal retains his position longer.

This table shows a lamentable condition in the educational affairs of the State. In order that a system of schools may be stable and develop in a healthful way it is necessary that their executive officers be men of marked training and experience in their work. That means the occupation must provide an opportunity for a life career, with proper remuneration for services well rendered.

From this table it is very clear that the educational system of the State does not provide such an opportunity for men of ability who have taken pains to secure proper training. In the first place, the total median experience of high school principals the State over is only 9 years. Fifty per cent of the high school principals have had only 5 to 17 years of experience. Their total high school experience is shorter than this for the obvious reason that many high school principals have had previous experience in elementary schools. This double experience, part in the elementary school and part in the high school, is a good thing in providing them this added variety of experience for their work. The

unfortunate feature, however, is that the high school principals retain each position that they occupy so short a time. On the whole, the meaning of the table is that the high school principalship is a transient position. Because it is so transient, the high schools of the State must inevitably suffer from lack of continuity of policy and lack of settled conditions, and lack of stability of plan.

Information regarding superintendents of schools is provided also in Item 43 of the Approval Blank and is tabulated in Table XL in the same manner as the preceding table.

An examination of this table shows that the superintendents of schools have longer experience than the township high school principals. The table shows that the longer the total experience the larger the school and the longer has been the experience of the superintendent. In the first part of the table it will be noted that since there are columns reaching only up to 20 and one for over 20 that some of the medians and quartiles were entered over 20. This is the only way that this information could be tabulated.

In this table it is noted that the information is reported regarding superintendents in the blanks opposite the spaces provided for the township high schools. This is because of the fact that some superintendents have charge of both the elementary schools and the high school even though there is a separate township high school organization. It also comes from the fact that sometimes when a report has been made of the township high school the information is also given for the city school system even though the superintendent is not a part of the high school organization.

The second part of this table shows that the median high school experience of city superintendents is ten years and that the middle 50 per cent of them have from 6 to 15 years. It will be noted that this table is incomplete for the larger schools but it is relatively complete for the smaller ones.

The same generalization may be made with regard to city superintendents in the smaller schools as for the township high schools as a whole, namely, that the positions are transient.

Some information is available in the reports made on Item 43 of the Approval Blank concerning the daily work of the high school principals. The information with reference to the number of classes taught daily by the principal and the number of subjects which he teaches is shown in Table XLI.

In this case as in the preceding tables the number of schools giving this report and the number not reporting are tabulated for the purposes mentioned above, showing the relative number of schools reporting. The information is very complete, 330 schools out of 450 giving this information. Reading the horizontal column for city high schools of Class A, we find that three principals teach one class per day, 4 teach 2 classes per day, 14 teach 3 classes per day. The table may be read in a similar manner throughout.

We find the situation here as expected, namely, that the principals in the smaller schools teach a larger number of classes daily. The median for Classes A and B is 5 periods per day. Fifty per cent of the

TABLE XL—EXPERIENCE OF SUPERINTENDENTS—(APPROVAL BLANK NO. 43).

	A 1-100				B 101-200				C 201-300							
	City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		Total.			
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.		
Total experience—	248		47	78.7	295	59.3	69	8.7	20	40	89	20.1	13	7.7	26	53.8
Number schools.....	138	55.6	37		175		6		12		18		1		13	
Years of experience—																
1.....	3		2		3		1									
2.....	3				4											
3.....	5				5											
4.....	5				6											
5.....	6				6											
6.....	5		1		6											
7.....	3				3											
8.....	7				7											
9.....	6		1		7											
10.....	10		1		11											
11.....	7				7											
12.....	6				6											
13.....	7		3		10											
14.....	2				5											
15.....	5				2											
16.....	2				2											
17.....	2		1		3											
18.....	3				3											
19.....	2				2											
20.....	1				1											
Over 20.....	21				22											
Total.....	110		10		120		18		4		22		6		1	
Median.....	11		13		11		63		8		71		12		6	
First Quartile.....	17		6		16		16		*20		16		*20		12	
Third Quartile.....	17		13		17		10		15		10		14		15	
Total high school experience—																
Number schools.....	248		47	78.7	295	57.6	69	7.2	20	60	89	19.1	13	7.7	26	53.8
Blanks.....	133	53.6	37		170		5		12		17		1		13	
Years of experience—																
1.....	7		1		8											
2.....	5		1		6											
3.....	9				9		1				1					





TABLE XI—Concluded.

	D 301-500						E 501-Over.						Total City H. S.		Total Twp. H. S.		Grand total.				
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		No.	Per cent.	No.	Per cent.	No.	Per cent.			
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.									
Years of experience—Concl'd.																					
14.....	1	.....			1	.....							9	.....					9	.....	
15.....		.....				.....							7	.....		1	.....			8	.....
16.....		.....				.....							6	.....			.....			6	.....
17.....	1	.....			1	.....							4	.....		2	.....			6	.....
18.....		.....				.....	1	.....			1	.....				.....			9	.....	
19.....		.....				.....							5	.....			.....			5	.....
20.....		.....				.....							5	.....			.....			5	.....
Over 20.....	5	.....			5	.....							7	.....			.....			62	.....
Total.....	8	.....			8	.....	7	.....			8	.....	7	.....			.....			219	.....
Median.....		.....				.....	8	.....				.....	8	.....			.....			13	.....
First Quartile.....		.....				.....						.....				.....			9	.....	
Third Quartile.....		.....				.....						.....				.....			9	.....	
Total high school experience—		.....				.....						.....				.....			9	.....	
Number schools.....	11	.....			22	.....						.....				.....			*20	.....	
Blanks.....	4	38.4	11	100	15	68.1	15	60	3	100	12	66.7	18	.....	94	.....	450	.....	450	.....	
Years of experience—		.....				.....						.....				.....			228	.....	
1.....		.....				.....						.....				.....			76	80.9	
2.....		.....				.....						.....				.....			7	.....	
3.....		.....				.....						.....				.....			7	.....	
4.....		.....				.....						.....				.....			10	.....	
5.....		.....				.....						.....				.....			9	.....	
6.....		.....				.....						.....				.....			14	.....	
7.....		.....				.....						.....				.....			15	.....	
8.....	1	.....			1	.....						.....				.....			12	.....	
9.....		.....				.....						.....				.....			1	.....	
10.....	1	.....			1	.....						.....				.....			7	.....	
11.....		.....				.....						.....				.....			20	.....	
12.....		.....				.....						.....				.....			19	.....	
13.....	1	.....			1	.....						.....				.....			19	.....	
14.....		.....				.....						.....				.....			10	.....	
15.....		.....				.....						.....				.....			2	.....	
16.....		.....				.....						.....				.....			18	.....	
17.....	1	.....			1	.....						.....				.....			5	.....	
18.....		.....				.....						.....				.....			1	.....	
		.....				.....						.....				.....			10	.....	
		.....				.....						.....				.....			8	.....	
		.....				.....						.....				.....			7	.....	
		.....				.....						.....				.....			7	.....	
		.....				.....						.....				.....			3	.....	





TABLE XLI—Concluded.

	Number schools.	No. giving no report.	Number reporting.	Number subjects taught.										First Quartile.	Third Quartile.	Quartile Deviation.		
				0	1	2	3	4	5	6	7	Over 7.	Total average.				Median.	
A																		
1-100	248	113	135		9	63	43	10	5	1				4	135	2	2	3
	47	3	44		4	23	14	2	1						44	2	2	3
	295	116	179		13	86	57	12	6	1				4	179	2	2	3
Total																		
B																		
101-200	69	7	62		22	27	12	1							61	2	1	2
	20	2	18		6	12									18	2	1	2
Total	89	9	80		28	39	12	1							80	2	1	2
C																		
201-300	13		13		5	7	1								13	2	1	2
	13	2	11		2	3	2								11	1	1	2
Total	26	2	24		9	10	3								24	2	1	2
D																		
301-500	11	1	10		1										10	1	1	1
	11	1	10		2		1								10	1	1	1
Total	22	2	20		3	16	1								20	1	1	1
E																		
501-Over	15	2	13		8										13			1
	3		3		1	2									3			
Total	18	2	16		9	7									16			1
Total City H. S.	356	123	233		9	97	56	11	5	1				4	233	2	1	3
Total Twp. H. S.	94	8	86		5	38	17	2	1						86	2	1	2
Grand total	450	131	319		14	135	73	13	6	1				4	319	2	1	3

principals in these two classes teach from 4 to 6 periods per day. Noting the situation in the township high schools of Class D, it is seen that the median number of classes taught by principals in schools of this group is one period per day, also that 50 per cent of the principals in this class teach one period per day. In Classes B and C the principals of township high schools teach a smaller number of classes than principals of city high schools.

The latter half of this table is devoted to the compilation of information regarding the number of subjects taught by principals daily. By subjects in this table is meant one group of subjects. For example, all the language is included in one group, whether French or German. All the sciences are included in a single group. After this manner the subjects are grouped in the following way, English Language, Mathematics, History, Science, Vocational.

It will be seen that as the size of the school increases the number of subjects taught daily by the principal decreases. There is no appreciable difference as to the number of subjects taught daily between city high schools and township high schools.

In Table XLII the work of superintendents is displayed in a manner similar to that of the principals in the preceding table.

As would be expected, the superintendents teach less than the principals. The information in this table is meager because the report was made by principals and not superintendents. Two hundred and twenty-three schools do not report this item. Of course, only in a few cases do superintendents teach in township high schools where there is an arrangement for cooperation between elementary schools and township high schools in the same territory. Hence, the table as regards township high schools is of little value.

Supervision is assumed to be the primary function of the principal of the high school. It is clear that in the smaller high schools he is a teacher primarily and not a supervisor because his time is consumed in teaching.

In Item 44 of the Approval Blank was reported information concerning the amount of time spent by the principal in supervision. By the form of the question the information could come in in any form chosen by the reporting officer. The information actually did come in a great variety of expressions. For example, the principals reported, "1 period daily," "None," "A little," "45 minutes," "3 hours," "2 hours," and so forth. In order to get this information in form so that it might be tabulated these reports were reduced to fractions of the day. For example, one period would be less than a fourth, two periods would be more than a fourth, an hour would be less than a fourth, two hours would be a fourth or more. It was found by treating the information in this way that the reports could in a manner that is fairly acceptable be reduced to a common denominator. The information treated in this way was then tabulated in Table XLIII.

A column is shown for the blanks, that is for the number and percentages of those supervisory officers who made no report. Since there are 446 schools shown in these reports and only 52 of them failed to report on this item it will be seen that the information is very complete. There

TABLE XLII—WORK OF SUPERINTENDENT—(APPROVAL BLANK NO. 43).

	Number of schools.	No. giving no report.	Number reporting.	Number classes taught daily.											Total.	Average Median.	First Quartile.	Third Quartile.	Quartile Deviation.
				0	1	2	3	4	5	6	7	Over 7.							
A	248	135	113		2	5	11	40	20	19	11	5	113	4	4	4	6	.....	
1-100	47	37	10		2		2	5			1		10	4	3	4		.....	
	295	172	123		4	5	13	45	20	19	12	5	123	4	4	6		.....	
B	69	9	60	2	10	23	14	8	3				60	2	2	3		.....	
101-200	20	12	8		3	2	2	1					8	2	1	3		.....	
	89	21	68	2	13	25	16	9	3				68	2	2	3		.....	
C	13	1	12	5	5	1	1						12	1		1		.....	
201-300	13	13																.....	
	26	14	12	5	5	1	1						12	1		1		.....	
D	11	2	9	8	1								9					.....	
301-500	11	11																.....	
	22	13	9	8	1								9					.....	
E	15	4	11	11									11					.....	
501-Over	3	3																.....	
	18	7	11	11									11					.....	
Total	356	151	205	26	18	29	26	48	23	19	11	5	205	4	2	5		.....	
Total City H. S.	94	76	18		5	2	4	6			1		18	3	1	4		.....	
Total Twp. H. S.	450	227	223	26	23	31	30	54	23	19	12	5	223	4	2	5		.....	
Grand total.																		.....	

TABLE XLII—Concluded.

	Number of schools.	No. giving no report.	Number re- porting.	Number subjects taught.										Over 7.	Total average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.		
				0	1	2	3	4	5	6	7										
A	City H. S. ....	248	137	111	12	43	40	12				2	1				111	3	2	8	
	Twp. H. S. ....	47	39	8	3	1	3	1									8	3	1	3	
	Total.....	295	176	119	15	44	43	13				2	1				119	3	2	3	
B	City H. S. ....	69	9	60	2	25	6		1								60	2	1	2	
	Twp. H. S. ....	20	13	7	4	3											7	1	1	2	
	Total.....	89	22	67	2	30	6		1								67	2	1	2	
C	City H. S. ....	13	2	11	5	4											11	1		1	
	Twp. H. S. ....	13	13																		
	Total.....	26	15	11	5	4											11	1		1	
D	City H. S. ....	11	2	9	8	1											9				
	Twp. H. S. ....	11	11																		
	Total.....	22	13	9	8	1											9				
E	City H. S. ....	15	4	11	11												11				
	Twp. H. S. ....	3	3																		
	Total.....	18	7	11	11												11				
	Total City H. S. ....	356	154	202	26	43	70	46	12	1	2	1	1	1	1	202	2	1	1	3	
	Total Twp. H. S. ....	94	79	15		4	3	1								15	2	1	1	3	
	Grand total.....	450	233	217	26	50	74	49	13	1	2	1	1	1	1	217	2	1	1	3	

TABLE XLIII—TIME DEVOTED TO SUPERVISION BY THE PRINCIPAL—(APPROVAL BLANK NO. 44).

	Blank.		Superintendent.		Little or none.		Less than one-fourth.		One-fourth and more, not including one-half.		One-half and more, not including all.		All time.		Total schools.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
A															
1-100															
City H. S.	32	13	12	4.87	60	24.39	52	21.13	51	20.73	39	15.85			246
Twp. H. S.	3	6.38	1	2.12	9	19.14	8	17.02	15	31.91	11	23.4			47
Total	35	11.94	13	4.43	69	23.54	60	20.47	66	22.52	50	17.06			293
B															
101-200															
City H. S.	7	10.29	7	10.29	20	29.41	12	17.64	13	19.11	8	11.76	1	1.46	68
Twp. H. S.	2	10	2	10	1	5	4	20	2	10	9	45			20
Total	9	10.22	9	10.22	21	23.86	16	18.18	15	17.04	17	19.31	1	1.13	88
C															
201-300															
City H. S.	1	7.69			4	30.76	1	7.69	3	23.07	4	30.76			13
Twp. H. S.	3	25	1	8.33			1	8.33	1	8.33	6	50			12
Total	4	16	1	4	4	16	2	8	4	16	10	40			25
D															
301-500															
City H. S.	1	9.09			2	18.18	1	9.09			6	54.54	1	9.09	11
Twp. H. S.	1	9.09					2	18.18	1	9.09	5	45.45	2	18.18	11
Total	2	9.09			2	9.09	3	13.63	1	4.54	11	50	3	13.63	22
E															
501-Over															
City H. S.	2	13.33					2	13.33			4	26.66	7	46.66	15
Twp. H. S.													3	100	3
Total	2	11.11					2	11.11			4	22.22	10	55.55	18
Total City H. S.	43	12.18	19	5.38	86	24.36	68	19.26	67	18.98	61	17.28	9	2.54	353
Total Twp. H. S.	9	9.67	4	4.3	10	10.75	15	16.12	19	20.43	31	33.33	5	5.37	93
Grand total	52	11.65	23	5.15	96	21.52	83	18.6	86	19.28	92	20.62	14	3.13	446

is a column for superintendents. This means that the principal when reporting indicates that the superintendent is responsible for supervision. Then there is a column for Less than  $\frac{1}{4}$ ,  $\frac{1}{4}$  or more, etc., as indicated.

A little over 23 per cent of the principals in Classes A and B report that there is little or no supervision. In Class A 55 per cent of the principals of township high schools devote  $\frac{1}{4}$  or more of their time to supervision found by adding columns " $\frac{1}{4}$  and more" to those above. In this class 35.6 per cent of the principals of city high schools devote  $\frac{1}{4}$  or more of their time to supervision. It is clear that in this case the principals of township high schools give a larger amount of their time to supervision than in the case of the city high schools. This same principle will be seen throughout all the classes, namely, that the township high school principals devote a larger proportion of their time to supervision, and this is also notable in the total results. In Class A 39.58 per cent of the principals found by adding columns " $\frac{1}{4}$  and more" to those above devote a fourth or more of their time to supervision; in Class B 37.48 per cent, in Class C 56 per cent, in Class D 68.17 per cent, in Class E 77.77 per cent. In other words, the larger the school the larger proportion of the principal's time is devoted to supervision. A large number of the principals in Classes D and E devote all of their time to supervision. In the total results 38.8 per cent of the principals of city high schools and 59.13 per cent of the principals of township high schools give one-fourth or more of their time to supervision.

The next subject in order is the discussion of the salaries of the principals. Under Item 43 of the Approval Blank information was collected on this topic, and is shown in this study in Table XLIV.

In this table information is given regarding 332 high schools. This table is constructed in exactly the same manner as the preceding tables. The information is also shown graphically in Figure 19.

Note the wide difference existing between the practices of the city high schools and the township high schools in the matter of the principal's salary. Salaries are much superior in the case of the township high schools to those in the city high schools of the same size. In fact, quite frequently the township high school of a certain size gives a salary surpassing that of the principal of the city high school of the next larger size.

Reading the table as it pertains to an individual class, for example Class D, it will be noted that the township high schools of this group have a median salary of \$2,500 and that the middle 50 per cent of them have salaries from \$2,250 to \$2,675.

Under Item 43-A in Form 2 information is collected on this topic as it pertains to salaries of principals and supervisors who teach less than half time. This information is shown in Table XLV.

The table is constructed in the same manner as the preceding one, and the information is graphically shown in Figure 20. This table and graph verifies and reinforces the information shown in the preceding table and graph, though it is a group of people a little differently selected. It is that group of principals who teach a small portion of their time. Although supervisors who teach less than half time is also included

TABLE XLIV—SALARIES OF PRINCIPALS—(APPROVAL BLANK NO 43).

	Number schools.	\$1-\$500	\$500-\$1,000	\$1,000-\$2,000	\$1500-\$2,000	\$2,000-\$2,500	\$2,500-\$3,000	\$3,000-Over	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A 1-100	City H. S.	4	86	56	1				\$143,564	\$ 976.62	\$ 990	\$ 850	\$1,150	\$150
	Twp. H. S.	45	20	23	2				50,150	1,114.44	1,100	900	1,350	225
	Total	49	106	79	3				\$193,714					
B 101-200	City H. S.	62	48	14					58,014	935.00	900	810	1,000	95
	Twp. H. S.	18	6	9	3				22,923	1,273.00	1,350	950	1,500	275
	Total	80	54	23	3				\$80,937					
C 201-300	City H. S.	13	5	8					14,920	1,124.61	1,200	975	1,250	137½
	Twp. H. S.	11		2	5	3	1		22,162	2,014.72	2,000	1,900	2,250	175
	Total	24	5	10	5	3	1		\$36,782					
D 301-500	City H. S.	11		6	5	3			16,360	1,505.45	1,500	1,300	1,650	175
	Twp. H. S.	9			2	3	3	1	23,300	2,588.88	2,500	2,250	2,675	212½
	Total	20		6	7	3	3	1	\$39,860					
E 501-Over	City H. S.	13	1		5	5	2		27,050	2,080.77	2,100	1,800	2,600	400
	Twp. H. S.	3					1	2	11,200	3,733.00	4,000	3,000	4,200	600
	Total	16	1		5	5	3	2	\$38,250					
Total City H. S.		246	140	84	11	5	2		\$259,808					
Total Twp. H. S.		86	26	34	12	6	5	3	129,735					
Grand total		332	166	118	23	11	7	3	\$389,543					

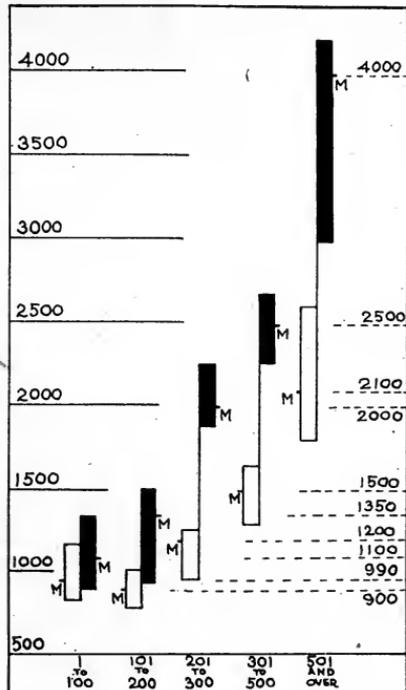
TABLE XLV—SALARIES OF PRINCIPALS AND SUPERVISORS WHO TEACH LESS THAN HALF TIME—(FORM 2, NO. 43A).

	Number schools.	\$1-\$500	\$501-\$1,000	\$1,001-\$1,500	\$1,501-\$2,000	\$2,001-\$2,500	\$2,500-\$3,000	\$3,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A														
1-100	26	13	7	5	1	1	.....	.....	\$13,570	\$ 522	\$ 450	\$ 50	\$ 900	\$425
Twp. H. S.	4	2	2	.....	.....	.....	.....	.....	2,036	509	523	58	933	438
Total.....	30	15	9	5	1	1	.....	.....	\$15,606					
B														
101-200	29	2	10	13	3	1	.....	.....	32,075	1,148	1,200	850	1,500	325
Twp. H. S.	12	.....	3	5	2	2	.....	.....	18,881	1,573	1,453	1,100	1,688	294
Total.....	41	2	13	18	5	1	.....	.....	\$50,956					
C														
201-300	4	1	2	1	.....	.....	.....	.....	3,860	965	1,000	360	1,500	570
Twp. H. S.	8	1	.....	2	3	2	.....	.....	14,133	1,767	1,950	1,500	2,200	350
Total.....	12	2	2	3	3	2	.....	.....	\$17,993					
D														
301-500	8	.....	1	3	3	.....	.....	.....	16,514	2,064	1,550	1,425	1,600	88
Twp. H. S.	11	1	.....	1	1	3	.....	.....	26,832	2,439	2,500	2,000	2,750	125
Total.....	19	1	1	4	4	3	.....	.....	\$43,346					
E														
501-Over	15	.....	.....	2	7	2	.....	.....	44,220	2,998	2,500	2,200	3,300	550
Twp. H. S.	3	.....	.....	.....	.....	.....	.....	.....	11,400	3,800	4,200	3,000	4,200	600
Total.....	18	.....	.....	2	7	2	.....	.....	\$ 55,620					
Total City H. S.	82	16	20	24	14	3	.....	.....	110,239					
Total Twp. H. S.	38	4	5	8	6	5	.....	.....	73,282					
Grand total.....	120	20	25	32	20	8	.....	.....	\$183,521					

here there are not many supervisors who work in the high schools. There are no figures showing the number of supervisors working in township high schools as compared to city high schools. The comparative situation in this matter is presumably about the same. For example, music supervisors in many cases give part of their time to the township high school and part to the underlying elementary schools. A similar situation exists in the city high schools.

In Item 42-C of Form 2 still more information is provided on this general topic with a still different selection of principals, namely, those who do no teaching. On the basis of the information provided in this item Table XLVI and Figure 21 are constructed.

Fig. 19.—Salaries of principals. The high schools are classified at the bottom according to number enrolled. The upright bars represent the range of salaries from the first to the third quartile; the hollow bars represent the city high schools and the solid bars the township high schools. M represents the median salary in each case. An equalized scale of salaries is shown at the left and a scale of the medians at the right.



It will be noticed that in this case the median salary of the principal of the township high school is less than that of the principal of the city high school, and this tendency is accurately displayed in the graph. The meaning of this is that the township high school principal ceases teaching at a lower level of salary than the principal of the city high school, that is, he is relieved earlier from the burden of teaching than the city high school principal. It is a situation entirely in accord with the general results of our investigation so far, namely, that the township high school provides financially more liberally than does the city high school and the township high school principal, as stated above, is relieved from the burden of teaching sooner than the city high school principal.

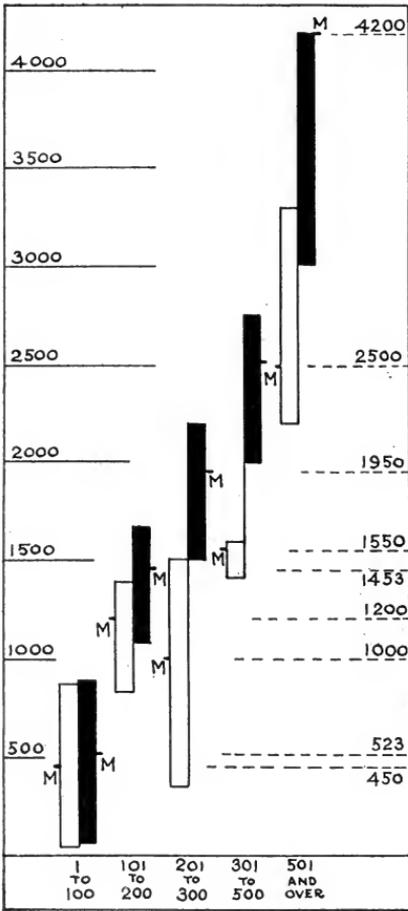


Fig. 20.—Salaries of principals and supervisors who teach less than half time. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range of salaries from the first quartile to the third quartile. The hollow bars represent the city high schools, and the solid bars the township high schools. M represents the median salary in each case. An equalized scale of salaries is shown at the left, and a scale of the medians at the right.

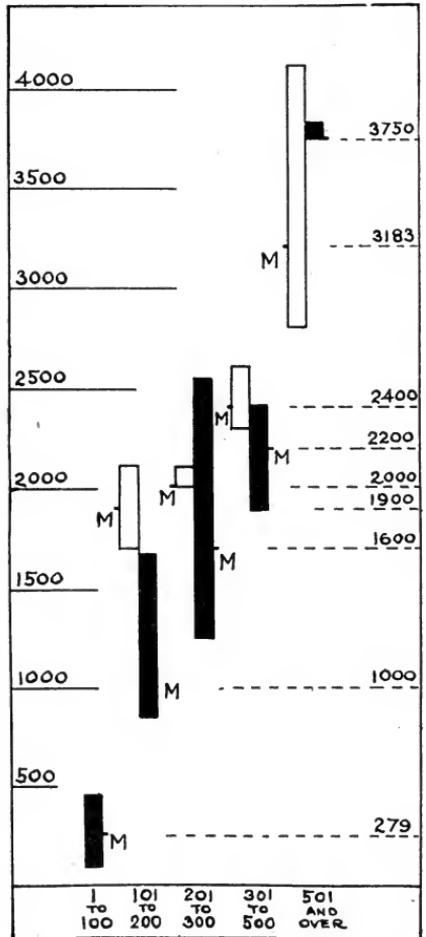


Fig. 21.—Salaries of principals who do no teaching. The high schools are classified according to the number enrolled. The upright bars represent the range of salaries from the first quartile to the third quartile; the hollow bars represent the city high schools, and the solid bars the township high schools. M represents the median salary in each case. An equalized scale of salaries is shown at the left, and a scale of the medians at the right.



Some information on this point was compiled from Mr. Counts' preliminary tabulations on the North Central Association, based on the reports of 1913. This information is tabulated in Table XLVII, and is designed to show the situation comparing all of the schools of the North Central Association, all of the schools of Illinois outside of Chicago, and the township high schools of Illinois. There are about 150 high schools in Illinois belonging to the North Central Association. Of these 39 are township high schools. The medians of these three groups are calculated and shown in this table. It was not thought worth while to make a detailed tabulation of this information. The schools of the various groups are shown in the latter part of the table. It will be readily seen that there is a constant tendency throughout all of the groups, which is that the Illinois high schools pay their principals a higher salary than the North Central Association schools do as a whole, and that the township high schools in Illinois pay a higher salary than the North Central Association schools, and a salary also higher than the Illinois high schools pay. For example, in Class D the median salary in the North Central Association is \$1,683, in Illinois high schools outside of Chicago it is \$2,300, and in the township high schools for this group the median is reported as \$2,600.

TABLE XLVII—MEDIAN SALARIES OF PRINCIPALS (NORTH CENTRAL BLANK).

	A	B	C	D	E	F	Total.
North Central.....	\$1,216	\$1,158	\$1,312	\$1,683	\$2,300	Over \$3,000	\$1,342
Illinois outside of Chicago.....	1,500	1,350	2,200	2,300	2,250	Over 3,000	1,659
Township high school.....	1,450	1,450	2,250	2,600	.....	Over 3,000	2,000

Since the salaries of superintendents were also reported in Form 43 of the Approval Blank, for comparative purposes it was decided to compile this information also. This information is given in Table XLVIII and is shown graphically in Figure 22.

At the left of this table in the vertical column marked "No. of schools" is shown the number of schools reporting on this item, 232 schools in all. There are a few straggling cases here in which the superintendent is reported as supervising the work of the high school. As an example of the type of information shown here, the situation in Class D may be noted. The median salary of superintendents of schools of the size listed in this group is \$2,200; the middle 50 per cent are paid \$2,100 to \$2,300. In Figure 22 is shown graphically a comparison of the salaries of city superintendents and high school principals. This graph is based upon Tables XLIV and XLVIII.

An equalized scale is shown at the left of the graph and a scale of medians at the right. It is very readily seen that the township high school principals secure about the same or a smaller salary than the city high school superintendents in the case of the smaller schools. In the case of schools having an enrollment of over 200 pupils the township high school principal receives a markedly larger salary than superintendents of schools having under their supervision high schools of a



similar size. In other words, city superintendents supervising an elementary school system and also the high school system receive a smaller salary for doing this than the township high school principals who have high schools alone of equal size to administer.

Certain conclusions may be drawn from the information developed in this chapter. By far the largest proportion of principals and superintendents have collegiate degrees. In the matter of total experience of high school principals, this experience increases with the size of the school. This is also true as regards the high school principal's high school experience and also his experience in the school which he is at

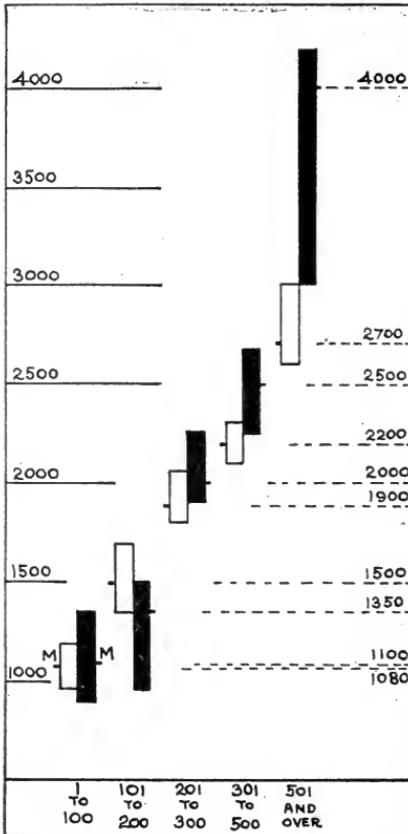


Fig. 22.—Salaries of city superintendents and township high school principals compared. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range of salaries from the first quartile to the third quartile. The hollow bars represent salaries of the city superintendents and the solid bars the salaries of the township high school principals. M represents the median salary in each case. An equalized scale of salaries is shown at the left, and a scale of the medians at the right.

present administering. The principal of the township high school has a longer teaching experience, a longer high school experience and a longer experience in the school in which he is now at work than the city high school principal. The city superintendent has a longer experience in all three of these categories than the township high school principal. It is clearly evident from the information shown in this chapter that the position of the principalship is entirely too transient. It is also shown that the city superintendency is likewise a transient position. As to the work which the principals do, the number of classes taught daily decreases with the increase in the size of the school, and the number of subjects

taught daily decreases with the size of the school. This same statement is true with reference to the city superintendent. As to the proportion of time spent by the principal in supervision, this increases as the size of the school increases. The township high school principal devotes a larger proportion of his time to supervision than the city high school principal. The salaries of township high school principals are markedly greater than the salaries of city high school principals for schools of the same size. The salaries of high school principals in the township high schools are larger than the salaries of city superintendents who have a system of schools containing a high school of the same size. The salaries of township high school principals are greater than the salaries of principals in the North Central Association as a whole and also greater than those of high school principals in the same size high schools outside of Chicago.

## CHAPTER VII.

### TEACHERS.

By far the most important factor in the efficiency of any educational institution is its body of instructors. Entirely too little attention has been given to this feature of school administration. School boards and school executives are often disposed to expend heavily upon the more tangible features of the school organization as, for example, buildings, grounds and equipment. This is probably due to the fact that such material evidences of an organization are more easily understood. It is often possible to spend thousands of dollars for comparatively needless expenditure in the way of buildings and equipment. Heavy repairs may be undertaken without great agitation in the community whereas a comparatively small increase in the salary of the teaching force often results in criticism and opposition.

In this chapter we address ourselves to the examination of the situation with reference to the teaching force, with particular reference to training, experience, daily work and salary.

Information regarding the training of teachers was collected under Item 12 of Form 2, and has been tabulated in Table XLIX.

The information shown in Table XLIX is displayed graphically in Figure 23. In this table there is a series of vertical columns designated as A, B, and C, etc., up to G, each corresponding with the subdivision of the information as shown in Item 12. The higher the letter the higher the point reached in the academic training of the teacher. For example, if a teacher is a graduate of a State normal school he is not reported as a high school graduate; if he is a college graduate, he is not reported as a State normal graduate, and so on throughout the table. In the latter half of the table is shown the statistics with reference to those teachers who did not graduate from any institution. This is handled in exactly the same way as the previous part of the table. For example, if a teacher attended the State normal he is not reported as having attended high school. Similarly, if he is reported as having attended college, he is not reported as having attended the State normal school although he has attended such an institution. In other words, teachers are reported each but once in the information provided under this item. The number and percentage of teachers having the various grades of training indicated at the head of the column are shown beneath. For example, in city high schools of Class A there are 316 teachers out of a total of 721, amounting to 43.8 per cent of the number, who are graduates of college only. In this same group there are 150 teachers out of 721, or 20.8 per cent of that number, who are graduates of State normal only.

TABLE XLIX—ACADEMIC TRAINING OF TEACHERS—(FORM 2 NO 12).

	Num-ber of schools.	Graduates of—						Attended but not graduate of—						Total.				
		College and State Normal School.		College only.		State Normal School only		Four-year high school only.		College.		State Normal School.			High school.			
		A		B		C		D		E		F			G			
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.		No.	Per cent.		
A																		
1-100																		
	252	8.3	316	43.8	150	20.8	36	5.	114	15.8	43	6.	2	.3			721	
	46	11.2	98	52.2	29	16.3	5	2.8	26	14.6	4	2.2	1	.6			178	
	298	8.9	409	45.5	179	19.9	41	4.6	140	15.6	47	5.2	3	.3			899	
Total																		
B																		
101-200																		
	69	10.2	294	58.7	54	12.	11	12	63	14	11	2.4					449	
	22	13.6	114	59.7	22	11.5			23	12	6	3.1					191	
Total	91	11.3	378	59.1	76	11.9	11	1.7	86	13.4	17	2.7					640	
C																		
201-300																		
	11	3.4	80	69	15	12.9	7	6	8	6.9			2	1.7			116	
	13	10.6	95	66.2	15	10.7	2	1.4	13	9.2	2	1.4					142	
Total	24	7.4	175	67.8	30	11.6	9	3.4	21	8.1	2	.8	2	.8			258	
D																		
301-500																		
	11	11.2	118	63.1	9	4.8	12	6.4	20	10.7	4	2.1	3	1.1			187	
	13	19	178	71.2	15	6.	14	5.6	18	7.2	5	2.	1	.4			250	
Total	24	9.2	296	67.7	24	5.5	26	5.9	38	8.7	9	2.1	4	.9			437	
E																		
501-Over																		
	16	7.4	332	64.3	45	8.7	14	2.7	60	11.6	8	1.6	3	.6			516	
	3	4.4	134	84.8	5	3.2	2	1.3	9	5.7			1	.6			158	
Total	19	6.7	466	69.1	50	7.4	16	2.4	69	10.2	8	1.2	4	.6			674	
Total City H. S.	359	8.5	1,110	55.8	273	13.7	80	4.	265	13.3	66	3.3	10	.5			1,989	
Total Twp. H. S.	97	9.5	614	66.8	86	9.4	23	2.5	89	9.7	17	1.8	3	.3			919	
Grand total	456	8.8	1,724	59.3	359	12.3	103	3.5	354	12.2	83	2.9	13	.4			2,908	

An inspection of this table shows that there is a straggling and relatively insignificant number of teachers who attended but did not graduate from high school. The largest number of teachers who have had some academic training and who attended institutions of the various classes but did not graduate are in the small schools. By studying the State as a whole, it is found that there is not a very large percentage of the teachers of the State who have this relatively incomplete academic training. Only 3.5 per cent of the teachers of the State are graduates of high school only. It is clear that the smaller schools depend in a larger measure upon the normal schools than the larger ones since they have a greater percentage

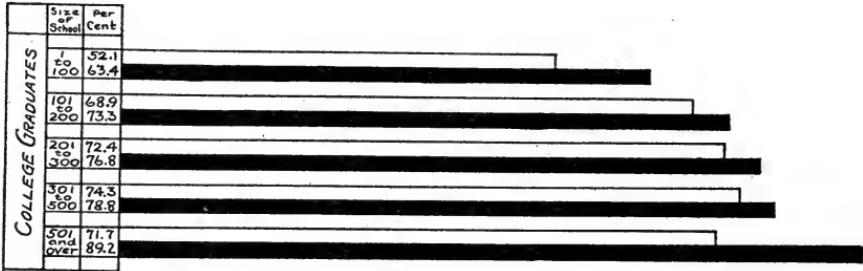


Fig. 23.—In the second vertical column the high schools are classified according to enrollment. In the second vertical is shown the percentage of college graduates in each group of schools based on the total number of teachers in the group. The horizontal bars represent percentages. The hollow bars represent the percentages in the city high schools, and the solid bars the percentages in the township high schools.

of State normal schools on their faculties than the larger schools. The largest group in all the schools of all the graduates is represented by college graduates, and the percentage of college graduates increases with the size of the school. A fairly good proportion of the teachers of the State are graduates of college and normal school both. The group which has the largest proportion of teachers who are graduates of college and State normal school both in Class B.

It will be noted by a further examination of the figures that the extent of academic training increases with the size of the school. A further fact which comes out of these figures is that in every group the township high school teachers have had more academic training than the city high school teachers. It is possible by adding columns A and B to find out the total number of high school teachers in the State who are college graduates. Making this calculation for the totals we find that 68.1 per cent of all of the high school teachers in the State are college graduates. Of the teachers in the city high schools 64.3 per cent are college graduates, and 76.3 per cent of the teachers in the township high

schools are college graduates. By referring to Figure 23 these facts become more vivid. In setting up this graph columns and percentage columns A and B were added. The first column of figures in this graph is the size of the school, the second column is the percentage of totals in the respective groups who are college graduates. For example, in the city schools of Class A 52.1 per cent of the teachers are college graduates. In the township high schools of Class A 63.4 per cent are college graduates. The percentages of teachers who are college graduates in the city high schools are represented by hollow bars; in the township high schools they are represented by solid bars. The graph merely serves to emphasize the fact brought out by the tables, that is, that the township high schools have a larger proportion of college graduates than the city high schools.

Some information bearing upon the subject of the training of the teachers in the high schools of the State was reported under Item 43 of the Approval Blank which provides spaces for reporting the degrees possessed by the teachers. This information is collated in Table L.

In this table there is a vertical column showing the number of schools reporting on this section of the Approval Blank. A horizontal column shows the number of schools reported in this item, which is 399, a very large proportion of the schools in the State and sufficient to give reliable information. Another column reports the number of teachers involved in this study, which is 1,710. The middle portion of the table is devoted to a series of vertical columns for each of the more common degrees, A. B., A. M., etc. In the case of A. M. all of the teachers are reported in the same column whether the degree is written as A. M. or M. A., similarly all of the M. S. and Ph. M. At the right of the table is a column each for total degrees, extra degrees, and blank degrees. By extra degrees is meant the degrees which are in addition to the bachelor's degrees. The column for blank degrees reports the number of cases where the space for this information was left blank. In reading the columns in this table horizontally we note that 135 teachers in city high schools of Class A have A. B. degrees; 28 have B. S. degrees, etc. In similar manner the whole table may be read. The percentages are calculated on the basis of the total degrees. For example, 135 or 74.2 per cent of the total degrees (182) possessed by teachers in city high schools of Class A are A. B. degrees.

We get an accurate idea of the situation in any group of schools by subtracting the extra degrees from the total degrees reported, and adding the blanks. For example, in the case of township high schools of Class A there are reported 56 degrees, subtracting 2 degrees and adding 48 blanks we have 102, the number of teachers reported for this group. In one or two instances there are slight inaccuracies in this matter because of errors in tallying, but an examination of the table will show that these errors are so small as to be negligible.

The information shown in this table corresponds rather accurately with that provided in the previous table. A number of the schools have not reported this information yet it is found that in the information

TABLE L—ACADEMIC DEGREES OF TEACHERS—(APPROVAL BLANK NO. 43).

	Number schools reporting subjects, classes and degrees.	Number schools reporting this item.	Number of teachers.		A. B.		B. S.		B. L.		Ph. B.		B. E.		A. M.		M. S.		Ph. M.		Ph. D.		Others.		Total degrees.	Extra degrees.	Blank degrees.	Total possessing degrees.	Number of first degrees not reporting.	Total having more than one degree.
			Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.						
A 1-100	City H. S. ....	222	456	135 74.2	28 15.4	12 6.6	1 .5	4 2.2																	182	6 278	.....	.....	3	
	Twp. H. S. ....	44	102	41 73.2	8 14.3	3 5.4	1 1.8	3 5.4																	56	2 48	.....	.....	1	
	Total.....	266	558	176 73.9	36 15.1	15 6.4	2 8	7 2.9																	238	8 326	.....	.....	4	
B 101-200	City H. S. ....	65	244	98 64.5	30 19.7	4 2.6	6 3.9	7 4.6	2 1.3																152	6 98	.....	.....	5	
	Twp. H. S. ....	19	114	50 33.3	15 20	1 1.3	6 8	3 4																	75	3 42	.....	.....	3	
	Total.....	84	358	148 65.2	45 19.8	5 2.2	10 4.4	10 4.4	2 .9																227	9 140	.....	.....	8	
C 201-300	City H. S. ....	13	86	37 67.3	9 16.4	5 9.1	1 ..	4 7.3																	55	2 33	.....	.....	2	
	Twp. H. S. ....	12	72	26 47.3	17 30.9	1 1.8	3 5.5	6 10.9	1 1.8																55	6 23	.....	.....	2	
	Total.....	25	158	63 57.3	26 23.6	1 .9	8 7.3	10 9.1	1 .9																110	8 56	.....	.....	4	
D 301-500	City H. S. ....	10	9	105 49 64.5	12 15.8	5 6.6	6 ..	9 11.8																	76	2 31	.....	.....	6	
	Twp. H. S. ....	11	10	164 61 48.8	30 24	14 11.2	1 .8	13 10.4	2 1.6																125	10 49	.....	.....	10	
	Total.....	21	19	269 110 54.7	42 20.9	19 9.5	1 .5	22 10.9	2 1																201	12 80	.....	.....	16	
E 501-Over	City H. S. ....	13	21	307 137 67.5	33 16.3	3 1.5	11 5.4	13 6.4	2 1																203	10 116	.....	.....	7	
	Twp. H. S. ....	3	3	60 20 48.8	6 14	6 14	.....	18 18.6	1 2.3																43	10 27	.....	.....	5	
	Total.....	16	15	367 157 63.8	39 15.9	3 1.2	17 6.9	21 8.5	3 1.2																246	22 143	.....	.....	12	
Total City H. S. Total Twp. H. S. Grand total...		323	1,198	456 68.3	112 16.8	7 1	37 5.5	7 1	37 5.5	4 .6															688	28 556	640 53.4	.....	23	
		89	512	198 55.9	76 21.5	2 .6	32 9	2 .6	33 9.3	4 1.1															354	31 189	323 63	.....	21	
		412	399	1,710 654 64	188 18.4	9 .9	69 6.8	9 .9	70 6.8	8 .8															1,022	59 745	965 56.4	.....	44	

given 56.4 per cent of the teachers concerned have degrees of one sort or another. This is found by calculating the percentage of those possessing degrees on the basis of the number of teachers. Similarly it is to be noted that the township high school teachers have degrees in larger proportion than the city high school teachers, the exact percentages respectively being 63 and 53.4.

In the case of city high schools a larger proportion of A. B. degrees are reported and in the case of township high schools a larger proportion of B. S. degrees are reported. The township high schools report a larger proportion of post graduate degrees.

This matter of the training of high school teachers is the most vital problem in high school administration. In the report here discussed concerning the academic training of teachers there is no information that bears directly upon their professional training. These tables have to do entirely with their academic training, but it is very clear that the better schools insist upon a more extensive academic training, that is, the larger schools do this and the township high schools do it. There will never be a satisfactory situation in the schools of the country until a thorough academic training is insisted upon in all of the schools. This thorough academic training must be followed up with a supplementary requirement of high degree in the matter of professional training. I know the objection at once will be raised that it is impossible for teachers to spend the large amount of time involved in a thorough academic course with a minimum requirement of the bachelor's degree, followed up with an expensive post graduate course dealing with the science of education, when the financial rewards are so meager. A section of this same chapter will show that the financial rewards are meager with certain exceptions. However, it seems that the best way to secure adequate professional standards and the commensurate financial remuneration is to begin by setting up standards of professional training without regard to the immediate financial reward. If the educators of the country, even at the expense of great personal sacrifice, will raise the educational and professional standards of the teachers, the time will inevitably come when teaching and school administration will be accorded its proper recognition as a profession, and the financial rewards are bound to follow such a policy. As I have said above, this is the most important problem to-day in the field of school administration, and it is one that needs clear thinking, and firm determination in the execution of any policy that may be formulated.

Closely related to academic training in the preparation of a teacher is experience. Any amount of academic training is of no value unless it is supplemented by successful experience. The teacher must be tested in the class room before accepted as a part of the educational machinery of the State. A certain amount of experience may be set off as a part of the training, how much it is at present difficult to estimate. There is a feeling on the part of some educators that it is possible after a certain stage for a teacher to have so much experience as to be no longer very desirable. A statement is often made that a teacher has had long experi-

ence and, hence, is in a rut. There are certain movements going on educational lines at the present time which obviate this tendency. This movement is to give teachers adequate training during service. If this is accomplished in the most desirable way, the teacher will always be growing and increased experience will constantly be an added asset.

The information collected in Item 43 of the Approval Blank furnished illuminating material on this topic. The question calls for the total number of years of teaching experience in the case of each teacher, the total high school experience and the total experience which the teacher has had in the high school where he is now employed. This information is tabulated in Table LI.

This information pertains to 1,830 teachers. The number of teachers in each group is shown in the columns provided for that purpose. The number of teachers who have had one year's experience are shown in the proper vertical column marked "1," the number who have had two years in the vertical column marked "2," and so forth, on down to a point where a column is provided for those who had had over 20 years. If we start to read this column we notice that of the 424 teachers working in the city high schools of Class A, 106 of them have had one year's experience, 90 have had two years' experience, and so on until we reach near the end of the horizontal column where we note that 6 have taught over 20 years.

At the right of each section of the table the median, the first quartile and the third quartile are calculated. This provides information of a very striking character. For example, the median experience for all of the teachers of the State is 4 years; 50 per cent of them teach from 2 to 8 years. It is thus very clear that teaching is a temporary occupation which is engaged in for a few years and then laid aside for other work.

If we examine the table carefully we shall see that the larger the school is the longer the teachers teach. For example, in Class E the median length of experience is 9 years, with 50 per cent of the teachers teaching from 7 to 15 years. In the smallest schools in Class A, for example, the median experience for the city high schools is 3 years, with 50 per cent of the teachers teaching from 2 to 5 years. This is a very unfortunate situation for all of the schools and particularly for the small ones. It means that the schools are in a constant state of upheaval and readjustment because of the constant influx of new personalities in the teaching force. Teachers are no sooner acclimated than they are dismissed or leave voluntarily. No commercial organization could exist efficiently under such a system. I think it is probably true that more of the defects of school systems are to be traced to this source than to any other.

The middle section of the table is devoted to a compilation of the information provided regarding the high school experience of teachers. In the portion devoted to the total experience all of the experience of the teachers is included, whether this experience was secured in high schools or in other schools. In this middle section the tabulation applies

TABLE LI—EXPERIENCE OF TEACHERS—(APPROVAL BLANK NO. 43).

	Number Teachers.	Total years experience.																				Median.	First Quartile.	Third Quartile.						
		Over 20.																												
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
A 1-100	424 106	90 36	111 21	55 16	49 11	29 6	21 2	20 3	12 5	2 2	4 1	5 1	5 1	6	3	4	2	2	3	3	6 1	3 1	2 2	2 1	5 4	5 4				
B 101-200	530	142	111	71	60	35	23	23	17	4	5	6	6	6	3	4	2	1	3	3	2	2	3	3	7	7	7			
C 201-300	381	54	62	60	61	22	17	20	18	8	6	7	6	4	4	4	3	1	3	3	3	1	3	3	1	17	17			
D 301-500	145 180	14 13	14 17	15 12	11 10	7 23	6 11	7 14	4 11	5 6	1 6	1 8	2 5	1 2	2 8	2 1	1 3	1 2	3 5	3 3	1 2	3 5	3 2	3 5	3 3	7 13	11 11			
E 501-Over	325 364 57	20 18 .....	28 34 .....	33 37 .....	25 32 .....	37 29 .....	24 24 .....	25 7 .....	17 16 .....	10 18 .....	12 10 .....	8 9 .....	3 3 .....	3 3 .....	12 8 .....	8 6 .....	5 3 .....	5 6 .....	6 3 .....	3 3 .....	7 8 .....	4 5 .....	5 5 .....	43 7	20 .....	50 .....	7 9	4 7	13 15	
Total	421	18	34	39	34	31	29	32	24	20	22	13	10	12	14	11	6	5	9	3	5	5	9	3	5	50	.....	.....	.....	.....
Total City H. S.	1,285	184	191	170	152	95	77	79	53	25	31	33	22	19	17	18	11	13	14	10	8	73	4	2	8	.....	.....	.....	.....	.....
Total Twp. H. S.	535	69	64	54	54	44	29	31	32	18	22	11	15	8	18	6	3	4	9	4	5	35	5	3	10	.....	.....	.....	.....	.....
Grand total....	1,820	253	224	206	139	106	110	85	43	53	44	37	27	24	35	24	14	17	23	14	13	108	4	2	8	.....	.....	.....	.....	.....

TABLE LI—Continued.

	Number teachers.	Total high school experience.																		First Quartile.	Median.	Third Quartile.			
		Over 20.																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				19	20	
A	424	179	105	51	31	20	7	14	1	1	5	3	1	1	1	1	1	1	1	2	2	2	1	3	
1-100	106	48	26	13	8	2	2	1	2	2	1	1	1	1	1	1	1	1	1	1	2	2	1	3	
	530	227	111	64	39	22	9	15	3	3	6	3	1	1	1	1	1	1	1	2	2	2	1	3	
B	271	79	44	34	17	15	12	7	4	5	2	1	3	2	1	1	1	1	1	1	1	3	1	5	
101-200	110	28	23	19	10	9	4	3	2	5	2	1	2	1	1	1	1	1	1	1	1	3	1	5	
	381	107	67	62	44	26	19	15	9	9	7	1	2	4	2	1	1	1	1	1	1	3	1	5	
C	91	26	20	13	11	9	1	5	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	4	
201-300	82	8	9	17	7	10	2	3	6	1	4	2	1	1	1	1	1	1	1	1	2	3	5	3	9
	173	34	29	30	18	19	3	8	8	2	4	4	2	1	1	1	1	2	3	2	4	4	5	3	9
D	145	16	13	24	17	10	14	9	7	4	4	8	4	2	3	1	1	1	2	2	4	6	5	3	8
301-500	180	16	25	20	16	22	9	15	9	5	8	6	2	2	3	1	1	2	4	2	4	7	5	3	9
	325	32	38	44	33	32	23	24	16	9	12	14	6	5	2	2	3	6	2	4	4	13	5	3	9
E	384	39	55	46	33	28	23	22	19	11	19	10	5	4	4	6	4	3	6	1	2	24	3	2	6
501-Over	57	4	2	2	2	7	6	7	4	3	1	1	2	2	1	1	1	2	1	2	6	7	5	14	
	421	43	57	48	35	35	29	29	23	14	20	11	7	6	8	7	4	4	8	1	2	30	4	3	7
Total	1,285	339	217	177	126	84	60	62	36	21	33	21	10	9	8	8	6	7	9	4	3	34	3	1	6
Total City H. S.	535	104	85	71	43	50	23	29	23	16	16	12	8	7	8	3	1	4	8	2	6	16	4	2	7
Total Twp. H. S.	1,880	443	302	248	169	134	83	91	59	37	49	33	18	16	11	7	7	11	17	6	9	50	3	2	7



only to high school experience. The tabulation is made up exactly in the same way as the first part of the table.

Here again we note the relatively large number of teachers who have had only a small high school experience. For example, of the 1,830 teachers comprised in this investigation 443 of them have had only one year's experience in high school. In the latter part of the middle section of the table it will be noted that the median number of years of experience of instructors in Illinois in high schools is 3 years. Fifty per cent of the teachers of the high schools have had only 2 to 7 years of experience in high school. Here again we note that the longer experience has been acquired by those in the larger schools. The difference in experience between township high school teachers and city high school teachers is not very marked at this point.

The third section of the table is devoted to a compilation of the information relating to the tenure of office of the teacher in the school in which he is now employed. The same tendency as was noted in the previous part of the table is shown here in a much more marked degree. Of the 1,830 teachers involved in this study 799 of them are teaching their first year in their present position. It is to be particularly noted that the median length of service in teachers in their present positions is 2 years, and that 50 per cent of them have held their present position from 1 to 4 years only. Here again the larger the school the longer the teachers have held their positions. There is no marked difference between the township high schools and the city high schools in this respect.

This latter part of the table is appalling in its significance. The previous part of the table has shown that the teachers remain in the business of teaching only a short time. The latter part of the table shows that those who do remain in the business of teaching flit from one position to another with great frequency.

There is no problem in the administration of education that needs the attention which this problem requires. The State and the local districts should hesitate at no expense and no effort to change this situation. It is impossible to take care of the enormous responsibilities laid upon schools in developing the youth of the country without a change in this respect. Financial rewards and standards should be so set that teachers could look forward to their work in education as a life career which would demand all of their enthusiasm and energy. These inducements should be so strong as to justify them in making adequate academic and professional preparation. Not only should they be encouraged but the school systems of the State should be so organized that the smaller schools should not suffer as they do. A teacher should be able to find a career almost anywhere, in small schools as well as in large ones. In no other way can the vital interests of the children be conserved.

The information shown in the preceding table is reinforced by the information reported under Item 19 of Form 2. This information is tabulated in Table LII.

The information in this table is set up with the side heads and the top heads reversed from the plan used in the preceding table. The table

TABLE LI—TEACHERS' TENURE OF POSITION—(FORM 2, NO. 19).

	A 1-100						B 101-200						C 201-300					
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Number of schools.....	252		45		297		69		22		91		11		13		24	
Years of tenure—																		
1.....	723	37.36	103	49.28	826	38.43	377	28.09	79	43.64	456	29.94	113	22.37	64	33.86	177	25.5
2.....	345	17.78	41	19.61	386	17.96	235	17.51	38	20.99	273	17.92	77	15.24	32	16.93	109	15.7
3.....	247	12.73	25	11.96	272	12.65	154	11.47	19	10.49	173	11.35	44	8.71	30	15.87	74	10.66
4.....	149	7.68	14	6.69	163	7.58	93	6.91	16	8.83	109	7.15	46	9.1	10	5.29	56	8.06
5.....	93	4.79	7	3.34	100	4.65	82	6.11	5	2.76	87	5.71	31	6.13	7	3.7	38	5.47
6.....	76	3.91	5	2.39	81	3.76	58	4.32	6	3.31	64	4.2	17	3.36	7	3.7	24	3.45
7.....	46	2.37	5	2.39	51	2.37	48	3.57	9	4.97	57	3.74	19	3.76	4	2.11	23	3.33
8.....	49	2.52	1	.47	50	2.32	52	3.87	2	1.1	54	3.64	18	3.56	1	.52	19	2.73
9.....	36	1.85	3	1.43	39	1.81	25	1.86	2	1.1	27	1.77	12	2.37	5	2.64	17	2.44
10.....	33	1.7	1	.47	34	1.58	32	2.38			32	2.1	12	2.37	10	5.29	22	3.17
11.....	12	.61			12	.55	18	1.34	3	1.65	23	1.37	8	1.58	1	.52	9	1.29
12.....	19	.93	1	.47	20	.93	23	1.71			21	1.51	12	2.37	1	1.05	14	2.01
13.....	9	.46			9	.41	11	.81			11	.79	10	1.98	2	1.05	12	1.72
14.....	13	.67	1	.47	14	.65	17	1.26			17	1.11	7	1.38	1	.52	8	1.15
15.....	6	.30			6	.27	10	.74	1	.55	11	.72	6	1.38	1	.52	7	1.01
16.....	56	2.85	56	2.85	112	5.44	112	8.37			16	1.05	5	.89	2	1.05	7	1.01
17.....	36	1.85	36	1.85	72	3.62	72	5.44			8	.52	4	.79	1	.52	5	.72
18.....	10	.51	1	.47	11	.51	9	.66	1	.55	7	.45	4	.39	5	2.64	7	1.01
19.....	7	.36			7	.32	7	.52			7	.45	2	.39	1	.52	5	.72
20 or more.....	49	2.52	1	.47	50	2.32	70	5.21			70	4.59	55	10.89	4	2.11	59	8.5
Total.....	1,940		209		2,149		1,342		181		1,523		505		189		694	

TABLE LII—Concluded.

	D 301-500						E 501-Over.						Total City H. S.		Total Twp. H. S.		Grand total.	
	City H. S.		Twp. H. S.		Total.		City H. S.		Twp. H. S.		Total.		No.	Per cent.	No.	Per cent.	No.	Per cent.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Number of schools.....	11		13		24		16		3		19		359		96		455	
Years of tenure—																		
1.....	173	24.43	58	23.38	231	24.16	400	14.97	30	19.6	430	15.22	1,786	24.92	334	34.08	2,120	26.02
2.....	93	13.13	50	20.16	143	14.95	266	9.95	29	18.95	295	10.44	1,016	14.17	190	19.38	1,206	14.8
3.....	52	7.34	27	10.88	79	8.26	223	8.34	22	14.37	245	8.67	720	10.04	123	12.55	843	10.34
4.....	46	6.49	31	12.5	77	8.05	235	8.79	12	7.84	247	8.74	569	7.94	83	8.46	652	8
5.....	40	5.64	20	8.06	60	6.27	183	6.85	11	7.18	194	6.86	429	5.98	50	5.1	479	5.88
6.....	36	5.08	6	2.41	42	4.39	152	5.69	6	3.92	158	5.29	222	3.09	30	3.06	369	4.52
7.....	22	3.1	10	4.03	32	3.34	87	3.25	6	3.92	93	3.29	222	3.09	34	3.46	256	3.14
8.....	31	4.37	5	1.9	36	3.76	88	3.29	8	5.22	96	3.39	238	3.29	17	1.73	255	3.13
9.....	15	2.11	3	1.2	18	1.88	94	3.51	1	5.65	95	3.36	182	2.53	14	1.42	196	2.4
10.....	25	3.53	8	3.22	33	3.45	107	3.9	5	3.26	112	3.96	209	2.91	24	2.44	233	2.86
11.....	20	2.82	3	1.2	23	2.4	89	3.7	2	1.3	101	3.57	157	2.19	9	.9	166	2.03
12.....	20	2.82	6	2.41	26	2.71	66	2.47	3	1.96	69	2.44	140	1.95	12	1.22	152	1.86
13.....	13	1.83	3	1.2	16	1.67	48	1.79	1	.65	49	1.73	91	1.26	6	.61	97	1.19
14.....	8	1.12	1	.4	9	.94	42	2.32	1	.65	45	1.59	107	1.49	3	.30	110	1.35
15.....	8	1.12	2	.8	10	1.04	64	1.64	1	.65	45	1.59	74	1.03	5	.51	79	.96
16.....	12	1.69	12	4.6	24	2.5	64	2.39	1	.65	65	2.3	108	1.5	3	.30	111	1.36
17.....	9	1.27	5	2.01	14	1.46	29	1.08	2	1.3	31	1.09	60	.83	7	.71	67	.82
18.....	6	.84	3	1.2	9	.94	34	1.27	2	1.3	34	1.2	60	.83	6	.61	66	.81
19.....	12	1.69	12	4.6	24	2.5	37	1.38	2	1.3	39	1.38	65	.9	7	.71	72	.88
20 or more.....	67	9.46	7	2.82	74	7.74	353	13.21	11	7.18	364	12.88	594	8.28	23	2.34	617	7.57
Total.....	708		248		956		2,671		153		2,824		7,166		980		8,146	

provides information from 455 school systems and from 8,146 teachers. This includes both the elementary and the high school teachers. Of the 8,146 teachers 2,120 are teaching for their first year, that is 26 per cent of the teachers of the State are teaching their first year. There is a larger percentage than in the preceding table of teachers who have had 20 or more years of experience, that is, 7.57 per cent. This table contributes no new information to our study but is included as a verification of the previous part of the study. It will be noticed in this table also that the larger the high school the longer the experience of the teachers. It will be noted in this table that the experience of the township high school teachers is shorter than that reported for the city teachers, but the teachers reported under the city high schools include all the teachers in the system, both elementary and secondary. The previous table showed that the length of service of township high school teachers and city high school teachers was the same, hence, we can readily infer from this table that elementary school teachers remain in their positions longer than high school teachers.

Under Item 43 of the Approval Blank information was reported on the amount of work performed by teachers. This information is tabulated in Table LIII.

In this table there is a column for the number of schools which report on this section, which is 412. The number of schools reporting this item is 307. The total number of teachers involved in this part of the study is 1,801.

The table shows the number of classes taught daily. In the proper columns are tabulated the number of teachers teaching a certain number of classes daily, as for example, the number and percentage of teachers who teach 4 classes daily, and so forth. It will be noted that the small high schools tend to teach 6 classes daily whereas the large high schools tend to teach 5 daily. The influence of the North Central Association of Colleges and Secondary Schools is noted here, since the association requires that the teacher shall teach not more than six classes per day and recommends a limit of five.

In examining Class A it will be noted that a relatively large per cent of the teachers teach 5 classes or less. Examining the situation as a whole, we note that 39 per cent of the teachers of the State teach 5 periods per day and 35.6 per cent teach 6 periods per day. Comparing the city high schools and the township high schools, it is noted that the larger proportion of the township high school instructors teach 5 periods per day or less.

As to the number of subjects taught daily, the information provided on this blank was grouped. English is tabulated as one subject. History, whether Ancient, Medieval and Modern or American, is grouped as one subject. Civics and Economics are grouped with the History. Science is grouped as a single subject. Therefore, the subjects under which this tabulation is made are as follows: English, Mathematics, Language, History, Science, Vocational Subjects. The information is shown in Table LIV.

The number of teachers involved in this study is 1,808. It is clear that the smaller schools require their teachers to teach a larger range



TABLE LIV—NUMBER OF SUBJECTS TAUGHT—(APPROVAL BLANK NO. 43).

	Number of schools, subjects or classes	Number of schools reporting this item	Number of teachers	1		2		3		4		5		6		7		Over 7		Blank	
				Number	Per cent.																
A	222	222	456	45	9.9	213	46.7	155	34	27	5.9	2	.4	3	.7			1	.2		
1-100	44	43	105	16	15.2	56	53.3	29	27.6	4	3.8									10	2.2
	Total	266	561	61	10.9	269	48	184	32.8	31	5.5	2	.4	3	.5			1	.2	10	1.8
B	65	65	255	128	50.2	100	39.2	23	9	4	1.6										
101-200	19	19	108	60	55.6	41	38	6	5.6	1	.9										
	Total	84	363	188	51.8	141	38.8	29	8	5	1.4										
C	13	13	92	65	70.7	24	26.1	2	2.2	1	1.1										
201-300	12	12	95	61	64.2	31	32.6	3	3.2												
	Total	25	187	126	67.4	55	29.4	5	2.7	1	1.1										
D	10	10	114	102	89.5	11	9.6													1	.9
301-500	11	11	180	146	81.1	27	15	7	3.9												
	Total	21	294	248	84.4	38	12.9	7	2.4											1	.3
E	3	12	343	296	86.3	43	12.5	2	.6											2	.6
501-Over	13	3	60	57	95	3	5														
	Total	16	403	353	87.6	46	11.4	2	.5											2	2.5
Total City H. S.	823	322	1,260	636	50.5	391	31	182	14.4	32	2.5	2	2.2	3	.2			1	.1	13	.1
Total Twp. H. S.	89	88	548	340	62	158	28.8	45	8.2	5	.9										
Grand total	412	410	1,808	976	54	549	30.4	227	12.6	37	2	2	.1	3	.2			1	.1	13	.7

of subjects and that the tendency in the larger schools is to keep them teaching a single group of subjects. In every case the township high schools provide facilities so that their teachers teach the smaller number of subjects, usually one subject.

We now come to that part of our chapter which deals with the provisions which the schools make for teaching, and the first topic to be discussed is the number of teaching positions in the schools of the various sizes. This information was reported under Item 11 of Form 2 and is tabulated in Table LV.

School authorities often wish to know whether or not their local practice conforms with that of other schools of their own size and rank. Table LV gives this information based upon the reports from 449 schools and involving 2,828 teachers. The table shows the number of teaching positions held in the various institutions by men, the number of teaching positions held by women, and the total number of teaching positions. It displays the number of schools having 1 teacher, 2 teachers, 3 teachers, etc., occupied by men, in the appropriate columns. For example, reading down the column headed city high school Class B we note that there are 15 schools having one position occupied by a man, 32 having two positions occupied by men, 14 having three positions occupied by men, etc. The table may be similarly read throughout. It gives the same information for women, and also at an appropriate point in the table the same information regarding the total number of teaching positions in each one of these three categories, that is, for men, women and total. The median, the first quartile and the third quartile are calculated and shown at the proper points in the table.

On reading this table further we note that in the city high schools of Class A there are 183 schools that have only one position occupied by a man. There are 84 schools that have one position occupied by a woman, and there are 29 schools all told that have only one teaching position. This part of the table shows that there are a relatively large number of schools in the State who are trying to conduct four-year courses with a very meager teaching force.

Examining that part of the table which refers to men and women, a fruitful comparison can be made. Examining Class D, we notice that the median number of men in the city high schools is 6 and the median number of women is 9. In the township high schools we note that the median number of men is 8 and the median number of women is 11. By making a similar comparison throughout the table we note that the township high schools surpass the city high schools in the number of men employed. Calculating the total we find that the proportion of men employed in the high schools is 40.6 per cent. This is a much larger proportion than is sometimes realized. Individual schools vary greatly in this respect. Probably the best policy all around is for a high school to aim to have an equal proportion of men and women.

School authorities wishing to know what is the practice of schools of their own size and standard in the matter of the number of teaching positions provided can secure this information in the latter part of this table. For example, in Class D the median number of teaching positions

TABLE LV—NUMBER OF TEACHING POSITIONS—(FORM 2, NO. 11).

	A 1-100			B 101-200			C 201-300			D 301-500			E 501-Over			Total City H. S.	Total Twp. H. S.	Grand total.
	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.			
Number of schools.....	246	45	291	69	22	91	11	13	24	11	13	24	16	3	19	353	96	449
Men—																		
1.....	183	20	203	15	2	17	1	1	1							199	22	221
2.....	60	20	80	32	7	39										92	27	119
3.....	3	5	8	14	5	19	6	1	7							23	12	35
4.....				6	5	11	1	3	4	1	1	1	2			8	9	17
5.....				0	5	5	1	6	1	1	1	1	2			3	9	12
6.....				1	2	3	2	3	3	6	2	8	2			3	6	14
7.....				2	1	3	1	3	1	4	2	6	2			5	2	7
8.....				1	1	2	1	1	1	1	1	2	2			3	3	6
9.....																2	2	4
10.....																1	1	2
11-15.....																3	3	6
16-20.....																1	1	2
21-25.....																2	2	4
26-30.....																2	2	4
31-40.....																2	2	4
41-50.....																2	2	4
51-Over.....																1	1	2
Total.....	312	75	387	158	67	225	40	63	103	68	100	108	203	64	267	781	369	1,150
Average.....	1	2	3	3	4	5	6	8	13	21	22	22	22	15	15	27	27	33
Median.....	1	2	2	2	3	3	3	3	4	6	6	6	6	9	9	15	15	21
First Quartile.....	1	1	1	2	2	2	2	3	4	6	6	6	6	9	9	15	15	21
Third Quartile.....	2	2	3	3	4	5	5	6	6	7	7	7	7	10	10	15	15	21
Quartile Deviation.....	.5	.5	.5	.5	1	1	.5	1	1	1	.5	1	1	1	1	1	1	1
Women—																		
1.....	215	46	261	68	22	90	11	13	24	11	13	24	16	3	19	321	97	418
2.....	84	14	98		1	1										84	15	99
3.....	107	16	123	12	1	13										104	17	121
4.....	31	12	43	17	1	17	1	2	3							49	12	61
5.....	9	3	12	10	6	25		2	2							28	11	39
6.....		1	1	10	4	14	4	4	7							10	9	19
7.....				7	5	12	4	3	7							11	8	19
Total.....				1	2	3	1	1	2	1	1	1	1	3	6	3	3	6

TABLE LV.—Continued.

	A 1-100		B 101-200		C 201-300		D 301-500		E 501-Over		Total City H. S.	Total Twp. H. S.	Grand total.
	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.			
Women—Concluded.													
8.....													
9.....													
10.....													
11.....													
11-15.....													
16-20.....													
21-25.....													
26-30.....													
31-40.....													
41-50.....													
51-Over.....													
Total.....	395	494	267	117	384	74	79	153	111	149	294	94	388
Average.....	2		4	5	7	6	10	11	11	11	18	31	1,679
Median.....	2		4	5	7	6	10	11	11	11	16	32	
First Quartile.....	2		3	4	6	5	9	9	13	13	23	39	
Third Quartile.....	2		3	4	6	5	9	11	13	13	24	39	
Quartile Deviation.....	.5		1	1	1	1.5	1	1	1	2	5.5	8	
Number of schools.....	252	46	69	22	91	11	13	24	11	13	24	16	3
Total men and women—													
1.....	29												29
2.....	64												64
3.....	101												102
4.....	14												15
5.....	12												12
6.....	1												1
7.....													
8.....													
9.....													
10.....													
11-15.....													
16-20.....													
21-25.....													
26-30.....													
31-40.....													
41-50.....													
51-Over.....													
Total.....	29	298	69	22	91	11	13	24	11	13	24	16	3
1.....													
2.....													
3.....													
4.....													
5.....													
6.....													
7.....													
8.....													
9.....													
10.....													
11-15.....													
16-20.....													
21-25.....													
26-30.....													
31-40.....													
41-50.....													
51-Over.....													
Total.....	29	298	69	22	91	11	13	24	11	13	24	16	3
1.....													
2.....													
3.....													
4.....													
5.....													
6.....													
7.....													
8.....													
9.....													
10.....													
11-15.....													
16-20.....													
21-25.....													
26-30.....													
31-40.....													
41-50.....													
51-Over.....													
Total.....	29	298	69	22	91	11	13	24	11	13	24	16	3
1.....													
2.....													
3.....													
4.....													
5.....													
6.....													
7.....													
8.....													
9.....													
10.....													
11-15.....													
16-20.....													
21-25.....													
26-30.....													
31-40.....													
41-50.....													
51-Over.....													
Total.....	29	298	69	22	91	11	13	24	11	13	24	16	3
1.....													
2.....													
3.....													
4.....													
5.....													
6.....													
7.....													
8.....													
9.....													
10.....													
11-15.....													
16-20.....													
21-25.....													
26-30.....													
31-40.....													
41-50.....													
51-Over.....													
Total.....	29	298	69	22	91	11	13	24	11	13	24	16	3

TABLE LV—Concluded.

	A 1-100			B 101-200			C 201-300			D 301-500			E 501-Over.			Total City H. S.	Total Twp. H. S.	Total City H. S.	Total Twp. H. S.	Grand total.
	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.					
Total men and women—Concluded.																				
Total.....	706	174	880	425	184	609	114	142	256	179	249	428	497	158	655	907	1,921	907	2,828	
Average.....	3	4	6	6	8	10	11	11	16	16	19	31	31	53	53	54	54	54	54	54
Median.....	3	4	6	6	8	10	11	11	16	16	18	26	26	38	38	38	38	38	38	38
First Quartile.....	2	3	5	5	6	9	9	9	14	14	16	23	23	33	33	33	33	33	33	33
Third Quartile.....	3	5	7	7	10	12	13	13	17	17	22	38	38	66	66	66	66	66	66	66
Quartile Deviation.....	.5	1	1	1	2	1.5	1.5	2	1.5	1.5	3	7.5	7.5	14	14	14	14	14	14	14

in the township high schools is 18; the middle 50 per cent of the schools of this class have from 16 to 22 teaching positions. Now a local situation may demand more teaching positions even than the third quartile indicates. This must be determined not only upon the basis of the practice of other schools but upon a consideration of conditions within the local school. If it is desired that the local school extend its course of study and provide a wide range of electives, this means a larger number of teaching positions. If the school wishes to confine itself to a rather conventional course with narrow opportunities for electives, it can do so with a relatively small number of teachers. However, the trend in education is all for providing the widest opportunity for pupils in the way of a broad choice of electives.

The practice of the schools in the matter of the distribution of salaries between the men and the women is shown in Table LVI.

This table is compiled from information reported under Item 13 of Form 2. This table shows the average expenditure for the employment of men teachers and women teachers in the different groups of schools. It also shows the medians, the first quartiles and the third quartiles. In addition to this there is a column which shows the percentage of the salary appropriation which is paid to men and the proportion which is paid to women.

An examination of the table in detail will give the information for city high schools and township high schools of any size. The total shows that 49.6 per cent of the total money appropriated for salaries is paid to women. Comparing this table with the preceding one in which 40.6 per cent of the teaching positions are occupied by men, since an almost equal amount of money is paid to men and women, the fact which is generally known without statistical calculation is reinforced, namely, that larger salaries are paid to men than to women.

In the early part of this chapter the point was made with emphasis that one of the important considerations in lengthening the tenure of office of teachers and encouraging them to remain in the profession is adequate provision with reference to salary. The practice of the high schools of the State in this particular was reported in Item 29 of Form 2. This information was collated in Table LVII. The situation in this table is shown graphically in Figure 24. The salaries are divided into groups, \$200 to \$299, \$300 to \$399, and so forth. The number of teachers in each salary group is placed opposite that group in the proper column as regards the size and kind of school in which they teach. There are 455 schools involved in this investigation, and 2,821 teachers.

It will be noted that in every case the township high school pays a higher salary than the city high school. The median salary in the city high schools of Class B is \$774; the median salary in the township high schools of this group is \$819, and so on throughout the table. Another example shows that in Class D the median salary for the township high school teachers is \$1,127; the middle 50 per cent of the teachers in this class of schools receive from \$945 to \$1,362. The median salary in all the high schools is \$886, and the middle 50 per cent receives from \$692 to \$1,150.

TABLE LVI—DISTRIBUTION OF SALARIES BETWEEN MEN AND WOMEN—(Form 2, NO. 13.)

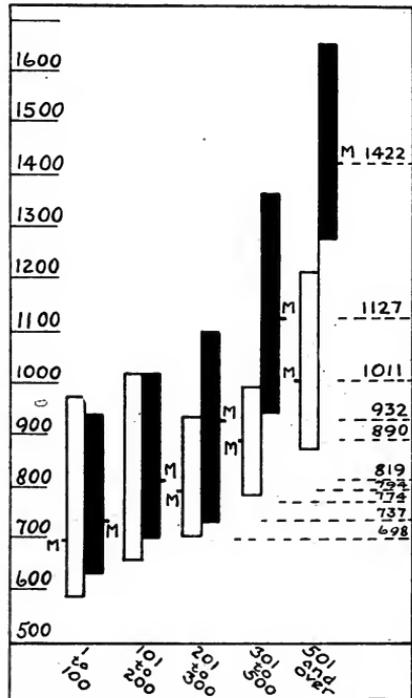
		Total.	Per cent.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A 1-100	City H. S.	Men..... Women.....	\$55.4 44.5	\$1,212.00 1,124.18	\$1,050 1,159	\$ 900 600	\$1,350 1,365	\$225 385
	Twp. H. S.	Men..... Women.....	54.6 45.3	1,046.15 1,337.69	1,752 1,304	1,063 722	2,160 1,665	548.5 472
	City H. S.	Men..... Women.....	45.5 54.4	2,153.59 2,576.21	2,000 2,389	1,520 1,806	2,673 3,348	577 771
	Twp. H. S.	Men..... Women.....	46.2 53.7	3,161.23 3,667.41	4,954 3,555	2,025 3,060	3,870 4,835	922.5 888
B 101-200	City H. S.	Men..... Women.....	46.9 53	4,069.09 4,594.36	3,855 4,363	3,050 3,800	4,800 5,180	875 690
	Twp. H. S.	Men..... Women.....	54.6 45.3	5,580.00 4,628.23	5,589 4,050	4,460 3,566	6,777 5,305	1,159 861
	City H. S.	Men..... Women.....	\$43.6 56.3	\$ 6,227.10 8,034.73	\$ 6,148 7,700	\$ 5,130 7,050	\$ 7,952 8,610	\$1,411 780
	Twp. H. S.	Men..... Women.....	50.5 49.4	10,411.40 10,194.00	9,300 9,490	5,383 7,256	15,729 14,325	5,163 3,535
C 201-300	City H. S.	Men..... Women.....	47.3 52.6	15,194.38 17,580.80	13,691 13,686	11,060 12,553	18,902 20,610	3,921 4,029
	Twp. H. S.	Men..... Women.....	46.9 53	36,069.00 40,829.00	35,500 42,850	28,100 33,175	44,607 46,461	8,254 6,643
	City H. S.	Total.....	\$ 230,663 1,269,525 1,291,114					
	Twp. H. S.	Total..... Grand total.....	\$2,560,639					

TABLE LVII—SALARIES OF TEACHERS—(FORM 2, NO. 29).

	A 1-100		B 101-200		C 21-300		D 301-500		E 501-Over		Total City H. S.	Total Twp. H. S.	Grand total.	
	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.				
Number of schools.....	251	46	297	91	24	24	11	13	16	3	19	358	97	455
Salaries—														
Less than 200.....	5	5	10	5	2	2	2	2	1	.....	1	11	9	20
200-299.....	2	2	3	2	.....	.....	.....	.....	1	.....	1	6	3	9
300-399.....	2	2	4	5	2	2	1	1	1	.....	1	7	10	17
400-499.....	35	13	44	8	6	6	5	6	3	.....	3	45	24	69
500-599.....	146	13	159	4	47	5	5	1	.....	1	7	200	24	224
600-699.....	164	48	212	26	118	13	10	4	14	.....	17	308	91	399
700-799.....	70	38	108	96	42	32	25	8	33	.....	46	268	109	377
800-899.....	59	16	75	62	32	17	38	23	72	.....	1	66	256	345
900-999.....	55	12	67	19	14	29	41	42	83	.....	1	98	222	310
1,000-1,099.....	63	13	76	16	34	5	22	14	45	.....	8	91	183	272
1,100-1,199.....	28	4	32	3	19	12	8	27	35	.....	11	47	88	145
1,200-1,299.....	31	6	37	19	12	7	4	32	36	.....	8	51	81	197
1,300-1,399.....	17	4	21	5	16	2	2	15	17	.....	19	31	76	104
1,400-1,499.....	6	7	13	4	3	2	4	2	10	.....	28	46	50	76
1,500-1,599.....	9	5	14	5	5	2	3	17	20	.....	22	32	25	79
1,600-1,699.....	4	5	14	5	20	2	5	10	14	.....	13	26	43	79
1,700-1,799.....	2	.....	4	1	8	1	1	4	4	.....	4	20	20	31
1,800-1,899.....	2	.....	2	1	.....	.....	.....	10	14	.....	4	24	31	51
1,900-1,999.....	.....	.....	.....	.....	.....	.....	.....	4	5	.....	4	9	13	21
2,000-2,499.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	6	7	8	20
2,500-2,999.....	.....	.....	.....	.....	.....	.....	.....	2	2	.....	6	6	8	14
3,000-Over.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	2	2	4	43
Total teachers.....	700	183	883	614	250	183	246	429	490	645	1,917	904	2,821	.....
Median.....	698	737	774	819	704	892	890	1,127	1,011	1,422	845	1,006	886	.....
First Quartile.....	590	633	660	707	708	737	792	945	875	1,284	668	1,066	692	.....
Third Quartile.....	976	91	1,017	1,025	.....	935	1,098	.....	1,220	1,655	1,063	1,314	1,150	.....

It is very clear that with meager salaries of this kind teachers cannot be expected to make the wide preparation which the importance of their work demands. School authorities in deciding upon their salary schedule can best learn the best practices of schools of their size and rank by giving attention to the salary range from the median to the third quartile. It is no credit to an institution to undertake to pay lower salaries than others of its group. It should rather seek to become a part of the progressive section of its group, raising the salary. If it pays a salary between the median and the third quartile, it will be imitating the example of the most progressive portion of that group, and if it can afford to, it ought to set the pace by going beyond the third quartile.

Fig. 24.—Salaries of teachers. The high schools are classified at the bottom according to the number enrolled. The upright bars represent the range of salaries from the first quartile to the third quartile. The hollow bars represent the city high schools and the solid bars the township high schools. M represents the median salary in each case. An equalized scale of salaries is shown at the left and a scale of medians at the right.



In order to determine the relative position of the township high schools as compared with all of the high schools of the Middle West information provided in the preliminary tabulations of Mr. Counts was collected, and is here shown in Table LVIII.

TABLE LVIII—MEDIAN SALARIES OF TEACHERS—(NORTH CENTRAL BLANK).

	A	B	C	D	E	F	Total.
North Central.....	817	774	813	875	1,145	1,327	916
Illinois outside of Chicago.....	881	803	907	1,004	1,005	1,244	998
Township High School.....	679	849	961	1,086	1,437	1,381	1,088

Three classes of schools are shown here. First, all of the schools of the North Central Association, involving about 1,000; all of the high schools in the State outside of Chicago, 150 in number; and the township high schools of Illinois who are on the accredited list, in number 39.

The medians for these groups of schools are shown. In every group it is noted that Illinois high schools pay larger salaries than the North Central Association schools, and the township high schools pay larger salaries than the other schools of Illinois.

Certain very definite conclusions may be drawn from the facts so far submitted in this chapter. In the first place, the larger the school the greater the academic training of the teachers employed in it. The township high school teachers acquire greater academic training than the city high school teachers. The most striking fact shown in this chapter is the relatively short experience of the high school teachers of the State and corollary to that the exceedingly short time the teachers spend in one position. It was found that the median length of the total experience of the teachers in the State is four years. It was also found that the median length of high school experience of the teachers of the State is 3 years. It was found that the median length of time a teacher spends in a given position is 2 years. It was also found that the elementary teachers in the State have a longer experience and a longer tenure of office than the high school teachers. The teachers in the larger schools teach a smaller number of periods per day and a smaller number of subjects than the teachers in the smaller schools. The township high school teachers teach a smaller number of classes per day and a smaller number of subjects than the city high school teachers.

As to the relation existing between the number of men and women as instructors in the high schools of the State, it is found that there are more women than men. A little over 40 per cent of the teaching positions in the State are occupied by men. The male teachers of the State receive almost as much money, however, as the women, thus showing that the salaries of the men are superior to those of the women. It was also shown that the salaries paid the township high school teachers are greater than the salaries paid to the city high school teachers. It was also shown that the salaries paid to the township high school teachers are greater than those paid to the teachers of the North Central Association as a whole, and also superior to the salaries paid to the teachers of Illinois high schools..

## CHAPTER VIII.

### THE STUDENT BODY.

The next important group which engages our attention in the study of the personnel of the high school is the student body. Reference has already been made in Chapter I to the enrollment, and Table I was exhibited for the purpose of showing the method of this investigation. Table I is here repeated as Table LIX in order that the information in this chapter may be complete.

As was noted in the preliminary discussion of this table, the enrollment in each of the classes is slightly higher in the case of the township high schools than in the case of the city high schools, with the exception of Class C, in which the city high school enrollment is larger.

The information shown in Table LX is shown with finer subdivisions than in Table LIX. The groups are 1 to 10, 11 to 20, and so forth.

The facts given in this table are shown graphically in Figure 25. They are commented on in the discussion of Table I in Chapter I.

It will be noticed here that there are a number of very small schools. For example, there are 37 city high schools of Class A which have an enrollment of only 21 to 30; there are 50 of them having an enrollment of only 41 to 50. There are 9 township high schools having an enrollment of only 31 to 40, and 4 township high schools having an enrollment of 41 to 50.

In recent investigations it has been common to base all sorts of comparisons upon the median enrollments of schools of various sizes. Perhaps this is justifiable because of the fact that although a student may remain in the school for only a short time, the organization must necessarily be adjusted to him, and he is an expensive factor that must be taken care of in the school.

In Table LXI information is given regarding average attendance.

The sizes and kinds of schools are shown at the side of the table. They are again classified as to enrollment at the top of the table. Reading the table, we note that there are 252 city high schools of Class A and 44 township high schools that have an average daily attendance of 1 to 100, and so on throughout the table.

The average attendance is found by dividing the whole number of days of attendance by the number of days school is in session. An examination of the table will show that the same relative condition exists in the matter of average attendance as in the case of enrollment discussed in the preceding tables. In each case except in Class C the average daily attendance is higher in the case of the township high schools than in the city high schools. The quartile deviation is larger in the case of the township high schools than in the case of the city high schools

TABLE LIX—ENROLLMENT—(FORM 2, NO. 2).

	Number of schools.	1-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1,000	1,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.	Median excess.
A 1-100	City H. S.	252											12,904	51.2	47½	34	67	16.5	13.7
	Twp. H. S.	46											2,538	55.1	54	37	74½	18.75	
	Total	298											15,442						
B 101-200	City H. S.	68	68										9,039	132.9	123	112	153	20.5	10.1
	Twp. H. S.	22	22										3,119	141.7	135½	110½	165½	27.5	
	Total	90	90										12,158						
C 201-300	City H. S.	12	12	12									2,860	238.3	235	220	253.5	16.75	3.5
	Twp. H. S.	13	13	13									3,087	237.4	227	211	296½	27.75	
	Total	25	25	25									5,947						
D 301-500	City H. S.	11	9	2									3,907	363.3	339	328	367	19.5	10.9
	Twp. H. S.	13	10	3									4,836	372	376	340½	406.5	33	
	Total	24	19	5									8,833						
E 501-Over	City H. S.	16			2	5	4				1	4	13,087	817.9	711	640½	987	173.25	64
	Twp. H. S.	3					1				2	2	3,163	1,054.3	1,166	794	1,203	204.5	
	Total	19			2	5	5				1	6	16,250						
Total City H. S.	359	252	68	12	9	2	2	5	4		1	4	41,887						
Total Twp. H. S.	97	46	22	13	10	3					2	2	16,743						
Grand total	456	298	90	25	19	5	2	5	5		1	6	58,630						

TABLE LX—DISTRIBUTION OF ENROLLMENT—(FORM 2, NO. 2)

	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	100-125	126-155	156-175	176-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1,000	1,001-Over
A	1	8	37	50	39	30	38	20	20	9													
1-100	46	2	3	9	4	13	3	4	6	2													
City H. S.																							
Twp. H. S.																							
Total	298	10	40	59	43	43	41	24	26	11													
B	68										35	13	15	5									
101-200	22										7	7	4	4									
City H. S.																							
Twp. H. S.																							
Total	90										42	20	19	9									
C	12														12								
201-300	13														13								
City H. S.																							
Twp. H. S.																							
Total	25														25								
D	11														9		2						
301-500	13														10	3							
City H. S.																							
Twp. H. S.																							
Total	24														19	5							
E	6																						
501-Over	3																						
City H. S.																							
Twp. H. S.																							
Total	19																						
Total City H. S.	359	8	37	50	39	30	38	20	20	9	35	13	15	5	12	9	2	2	5	4			4
Total Twp. H. S.	97		3	9	4	13	3	4	6	2	7	7	4	4	13	10	3			1			2
Grand total	456	1	40	59	43	43	41	24	26	11	42	20	19	9	25	19	5	2	5	5			6

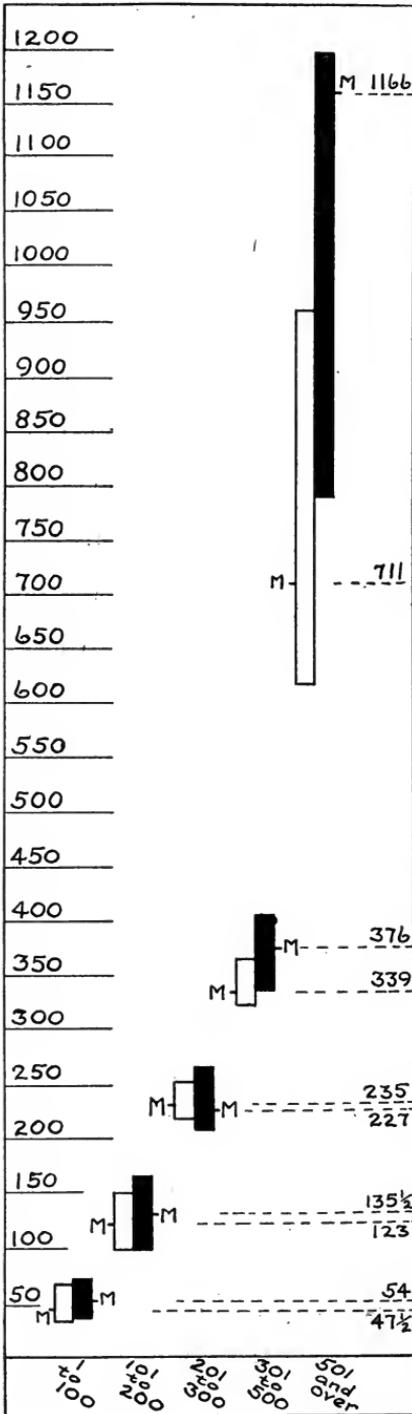


Fig. 25.—Enrollment. The high schools are classified according to the number enrolled. The upright bars represent the range of enrollment from the first quartile to the third quartile. The hollow bars represent the city high schools and the solid bars the township high schools. M represents the median enrollment in each case. An equalized scale of enrollment is shown at the left and a scale of medians at the right.

TABLE LXI—AVERAGE ATTENDANCE—(FORM 2, NO. 2).

	Number of schools.	1-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1,000	1,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile	Quartile Deviation.
A 1-100	City H. S.....	252											11,198	44.4	40½	' 29	59	15
	Twp. H. S.....	44	44										2,085	47.3	46	30½	58½	14
	Total.....	296	296										13,283					
B 101-200	City H. S.....	68	18	50									8,118	119.3	111½	100	142	21
	Twp. H. S.....	23	7	16									2,832	123.1	125	93	144	25.5
	Total.....	91	25	66									10,950					
C 201-300	City H. S.....	12	4	8									2,431	206.7	208	188½	218½	15
	Twp. H. S.....	13	7	6									2,708	208.3	198	182½	237½	27.5
	Total.....	25	11	14									5,139					
D 301-500	City H. S.....	11		6	4	1							3,467	315.1	296	277	324	23.5
	Twp. H. S.....	13	1	4	8								3,989	306.8	342	287	350½	31.75
	Total.....	24	1	10	12	1							7,456					
E 501-Over	City H. S.....	16		3	5	3							11,080	692.5	583½	532½	825	146.25
	Twp. H. S.....	3		1		1							2,727	909	943	722	1,062	170
	Total.....	19		4	5	3	5	3	2	1	2	3	13,807					
Total City H. S. . . .	359	54	14	4	4	5	3	1	1	1	2	36,344						
Total Twp. H. S. . . .	96	24	10	8								14,341						
Grand total.....	455	321	78	24	12	4	5	3	2	1	2	3	59,685					

except in Class A. This deviation indicates that there probably is a little greater irregularity in the case of the township than in the case of the city high schools.

In Item 14 of Form 2 the total days' attendance of all the pupils enrolled was reported. This information is tabulated in Table LXII.

The schools are classed at the side and the total days' attendance is grouped at the top. Reading the table, we note that in 120 city high schools of Class A the total days' attendance is 5,000 to 10,000; in 61 city high schools of Class A the total days' attendance is 10,000 to 15,000. It will be noted by examining the medians that here without question the number of days of attendance in the case of the township high schools is larger than the number of days of attendance in the city high schools. It should be said in this connection that the total days' attendance is probably the best basis on which to make comparisons between different systems of schools, as this attendance is the same in different institutions no matter what the size. The difficulty with total enrollment is that the different schools vary considerably in this respect throughout the year. The uncertain factor in the average daily attendance is that sometimes reporting officers calculate it in a little different fashion, but if the total days' attendance is reported there is very little chance for inaccuracy. Throughout the present investigation, however, it was not possible to do this because the investigation had reached fair completion before this item was tabulated and made available. However, if later investigation should start with the formulation of this table, it would be comparatively easy to carry it out along the lines suggested.

It was noted above that the total days' attendance depended somewhat upon the length of the school term. Information on the length of the school term was reported in Item 3 of Form 2, and is tabulated in Table LXIII.

In this table the number of schools is reported in the first horizontal column below the classification of schools. Then there is a column for less than 160 days, a column for 160 days, 161 days, and so on until we come to a column which calls for the information in those schools having a term of over 200 days in length.

In the lower part of the table the average, the median, the first quartile, the third quartile, and the quartile deviation are shown. By consulting the medians it will be seen that in every case except Class E and Class B the township high schools have longer terms. The difference, however, between the township high schools and the city high schools in this respect is not very great, hardly enough to be of sufficient importance to predicate any conclusions as to the effect of the length of the school term upon the efficiency of the school.

The matter of the amount of time spent by the recitations of various classes upon their work is an important one. There is a tendency in educational circles at the present time to lengthen the school year and to lengthen the school day, as well as to lengthen the recitation periods.



TABLE LXIII—LENGTH OF TERM IN DAYS—(FORM 2, NO. 3).

Number of schools..... Term in days— Less than	A 1-100			B 101-200			C 201-300			D 301-500			E 501-Over.			Total City H. S.	Total Twp. H. S.	Grand total.
	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.												
252		46	298	69	22	91	11	13	24	11	13	24	16	3	19	359	97	456
180.....	3		1													3		56
180.....			1													1		3
161.....	1		1													1		1
161.....			1													1		1
162.....	3		3													3		3
163.....	2		2													2		2
164.....	3	1	4													3	1	4
165.....	2		2													2		2
165.....	3		3	1		1										4		4
166.....	3		3													3		3
167.....	1		1													1		1
168.....	4		4													4		4
169.....	2		2	1		1										3		3
170.....	13	1	14													13	1	14
171.....	6		6	1		1										7		8
172.....	5	2	7	2	1	3							1			8		11
173.....	9		9	1	1	2										11		12
174.....	7		7	1	1	2										8		10
175.....	9	1	10	2	1	3	1	1	2	1	1	1	1	1	1	12	1	14
176.....	10		10	3		3										16		19
177.....	6	2	8	1	1	2										10	2	13
178.....	13		13	2		2										15		17
179.....	7	2	9	1	1	2										10	3	13
180.....	40	9	49	18	6	24										61	21	82
181.....	9		9	4		4										13		16
182.....	13	5	18	7	1	8	3	2	3	1	2	1	1	1	1	18	2	20
183.....	15	1	16	4	1	5	1	1	2	1	1	1	1	1	1	23	8	31
184.....	11	1	12	2	1	3	3	1	4	1	1	1	1	1	1	22	3	25
185.....	16	1	17	5	1	6										25		26
186.....	6	2	8	2	2	4										10	4	14
187.....	10	5	15	2	2	4										13	6	19
188.....	6	1	7	1	1	2										9	3	12
189.....	5	3	8	3		3										11	6	17
190.....	5	1	6	3	2	5	1	1	2	1	2	2	2	1	2	11	2	13
191.....	1	1	2	1	1	2										3	3	6
192.....	2		2	1	1	2										3	1	4
193.....				1		1										1		1

TABLE LXIII—Concluded.

	A 1-100		B 101-200		C 201-300		D 301-500		E 501-Over		Total City H. S.	Total Twp. H. S.	Grand total.		
	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.	City H. S.	Twp. H. S.	Total.	City H. S.				Twp. H. S.	Total.
Term in days—															
Concluded.															
194.....	3		3								3		6		
195.....		2		1							1		1		
196.....										1					
197.....															
198.....				1									1		
199.....	1		1										1		
200 and over															
Total.....	45,013	8,365	53,378	12,532	1,999	2,379	1,988	2,415	1	1	3	17,730	82,228		
Average.....	178	182	180	4,018	182	183	181	186	2,966	553	185	184	184		
Median.....	180	182	180	183	181	182	180	185	186	184	186	184	184		
First Quartile.....	174	179	179	180	180	180	177	184	179	169	179	169	169		
Third Quartile.....	184	187	187	185	183	187	184	189	192	200	192	200	200		
Quartile Devia- tion.....	5	4	4	2.5	1.5	3.5	3.5	2.5	6.5	15.5	6.5	15.5	15.5		

In order that this may be done intelligently an investigation reaching a wide area needs to be made covering not only the practice of the various institutions in this respect but also investigating the efficiency of schools which actually increases the length of time spent. We probably have enough information to give us adequate data for conclusions as to the present practice in this respect. The information at hand shows that schools of a given size and standard have nearly the same custom in this respect.

In order to compare the schools at present under consideration in this investigation with others the information based on the preliminary tabulations made by Mr. Counts in his study of the North Central Association was tabulated. This tabulation is shown in Table LXIV.

TABLE LXIV—TIME UNITS—(NORTH CENTRAL BLANK).

	North Central.		Illinois.		Twp. H. S.	
	Median.	Quartile Range.	Median.	Quartile Range.	Median.	Quartile Range.
Number of weeks of 5 days each.....	38	36-39	36	36-38	38	37-39
Number of recitations in daily program.....	7	7-8	7	7-7	7	6-8
Number of 60 minute hours in daily programs.....	5½	5-5½	5½	5½-5½	5½	5½-5½
Number of minutes in recitation periods.....	43	40-45	42	40-45	42½	40-43

This table covers first the number of weeks of 5 days each, the number of recitations in the daily program, the number of 60-minute hours in the daily program, and the number of minutes in the recitation periods. It is a comparison between the practice in the North Central Association, the schools of Illinois, and the township high schools of Illinois. In each group of schools the median and the quartile range is calculated. The quartile range indicates the practice of the middle 50 per cent of the group. For example, in the case of the North Central Association the quartile range is indicated as 36 to 38, which means that the first quartile is 36 and the third quartile is 39, that is, the number of weeks in this group of schools in the school term is 36 to 39.

Comparing the schools in detail it is noted that the median length of school term in the North Central Association is 38 weeks, for the schools of Illinois 36 weeks, and for the township high schools 38 weeks. The median number of recitations per week is the same in each case, namely, 7. The number of 60-minute hours is practically the same, being either 5¼ or 5½. There is no important difference in the practice of these schools in the number of minutes in the recitation period. The number of minutes is either 42, 42½ or 43. This table shows the remarkable uniformity existing in the North Central territory in all classes and grades of schools.

In the preceding paragraphs we have been discussing the personnel of the school as a whole with very little attention to the constitution of the student body. This latter matter will now engage us for a considerable part of the remainder of the chapter.

Under Item 8 of Form 2 information regarding tuition pupils in the high schools of the State was reported, and this information is tabulated in Table LXV.

The tuition pupils are arranged in the group at the top as follows: 1-10, 11-20, 21-30, etc. The number of schools having a given number group of tuition pupils is placed before in the appropriate vertical column opposite the size and kind of school to which the given group belongs.

It will be noted that in each class of schools the township high schools have a smaller number of tuition pupils than the city high schools. For example, in Class D the median number of tuition pupils in city high schools is 59, and in 50 per cent of the schools the range of tuition pupils is from 35 to 82; whereas in the case of township high schools the median number is 37, and 50 per cent of the schools of this group have from 25 to 53 tuition students. This is indicative of two things. First, that the township high schools with their wider range of territory more nearly supply the needs of prospective high school students in the vicinity in which they are located. In other words, the pupils who naturally belong to these schools are in actual attendance and their places of residence are included in the district. In the city high schools there are a large number of students coming from outside of the district who really belong within the school sphere so to speak of the high school in question. Undoubtedly there are many other prospective high school students in the neighborhood of city high schools who would be brought into the city high schools if the immediate environs of that high school which naturally belonged in the high school district were actually included in the high school district. Here is need for very definite legislation. A large number of prospective high school students in the State do not enjoy high school advantages, who have a high school near enough to be available to them but the organization of the high school districts does not permit it. It seems unfortunate that this condition is allowed to continue. There are, of course, certain territories in the State of Illinois where at present there is no high school within reach of prospective high school students. In such cases wherever it is possible to do so high schools should be organized and high school districts set up. But we have revealed in this study a condition which is known to many educators in the State, namely, that pupils who properly belong to a certain high school are not included in the high school district. It is true that the legislative difficulties in the way of making provision for this are severe, yet by a proper study of the matter it would seem that these obstacles might be overcome.

The distribution of the pupils throughout the various classes in the high school was reported in Item 2 of Form 2. This information is tabulated in Table LXVI.

TABLE LXV—TUITION PUPILS—(FORM 2, NO. 8)

	Number of schools.	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	100-Over	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A 1-100	City H. S. ....	83	91	46	19	3	3						4,028	16.4	14	8	21	6.5
	Twp. H. S. ....	36	8	4	2								380	10.5	8	4	14½	5.25
	Total.....	281	99	50	21	3	3						4,408					
B 101-200	City H. S. ....	67	9	18	10	13	9	3	1			1	2,503	37.3	33	22	49	13.5
	Twp. H. S. ....	18	6	1	3	2			1				434	24.1	18½	7½	35	13.75
	Total.....	85	15	19	13	15	9	3	2			1	2,937					
C 201-300	City H. S. ....	11	2	2		1	2			1			455	41.3	41	17	62	22.5
	Twp. H. S. ....	13	1	3	3		1	2					395	30.3	28	10	46.5	18.25
	Total.....	24	3	5	3	1	3	4		1			850					
D 301-500	City H. S. ....	11	1		1	1	2	1	1	1		2	737	67	59	35	82	23.5
	Twp. H. S. ....	13	1	2	3	3	1	2					511	39.3	37	25	53½	14.25
	Total.....	24	2	2	4	4	3	3	1	1		2	1,248					
E 501-Over	City H. S. ....	16		2									1,281	80.06	65.5	49	89	20
	Twp. H. S. ....	3	1										103	34.3	15	2	86	42
	Total.....	19	1	2			3	2	2	2	1	3	1,384					
Total City H. S. ....		350	103	68	30	20	19	8	4	3	1	6	9,004					
Total Twp. H. S. ....		83	17	10	11	5	2	4	1	1			1,823					
Grand total.....		433	120	78	41	25	21	12	5	4	1	6	1,827					

TABLE LXVI—DISTRIBUTION OF THE ENROLLMENT IN ILLINOIS IN THE FOUR HIGH SCHOOL YEARS—(FORM 2, NO. 2).

		Number of schools.	9		10		11		12		Total.
			No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
A 1-100	City H. S. ....	250	4,909	38.3	3,242	25.3	2,691	21	1,990	15.5	12,832
	Twp. H. S. ....	46	1,040	41.1	605	23.9	531	21	356	14.1	2,532
	Total .....	296	5,949	38.7	3,847	25	3,222	21	2,346	15.7	15,364
B 101-200	City H. S. ....	69	3,522	38.3	2,291	24.9	1,892	20.6	1,482	16.1	9,187
	Twp. H. S. ....	22	1,321	42.4	776	24.9	570	18.3	452	14.5	3,119
	Total .....	91	4,843	39.4	3,067	24.9	2,462	20	1,934	15.7	12,306
C 201-300	City H. S. ....	11	1,131	43.1	613	23.3	474	18.1	408	15.5	2,626
	Twp. H. S. ....	13	1,320	42.8	790	25.6	561	18.2	416	13.5	3,087
	Total .....	24	2,451	42.9	1,403	24.6	1,035	18.1	824	14.4	5,713
D 301-500	City H. S. ....	11	1,529	38.4	1,011	25.4	777	19.5	663	16.7	3,980
	Twp. H. S. ....	13	2,002	41.6	1,157	24.1	885	13.4	765	15.9	4,809
	Total .....	24	3,531	40.2	2,168	24.7	1,662	18.9	1,428	16.1	8,789
E 501-Over	City H. S. ....	16	5,251	39.8	3,512	26.6	2,453	18.6	1,965	14.9	13,181
	Twp. H. S. ....	3	1,250	39.5	836	26.4	525	16.6	552	17.5	3,163
	Total .....	19	6,501	39.8	4,348	26.6	2,978	18.2	2,517	15.4	6,344
	Total City H. S. ...	357	16,342	39.1	10,669	25.5	8,287	19.8	6,508	15.6	41,806
	Total Twp. H. S. ...	97	6,933	41.5	4,164	24.9	3,072	18.3	2,541	15.2	16,710
	Grand total. ...	454	23,275	39.8	14,833	25.3	11,359	19.4	9,049	15.5	58,516

This table shows the number and percentage of students in each of the four years in high school in the various groups. The remarkable fact coming out of this table is that the proportion of students in the various classes is remarkably uniform throughout the table.

It will be seen, taking the State as a whole, that 39.8 per cent of the students in the high schools are in the first year class, 25.3 per cent are in the second year class, 19.4 per cent are in the third year class, and 15.5 per cent are in the fourth year class.

It will be noted also in inspecting the totals that the township high schools have a larger proportion of their pupils in the first year than the city high schools. Although the difference is not a large one, it would seem that the reason for this is the fact that a good many of the township high school students live some distance away from the high school building, and that this fact has somewhat of a bearing upon their attendance.

It is interesting to compare this information with other information collected from the reports of the North Central Association in 1913. This information for 1913 is tabulated in Table LXVII.

TABLE LXVII—DISTRIBUTION OF THE ENROLLMENT IN THE NORTH CENTRAL ASSOCIATION IN THE FOUR HIGH SCHOOL YEARS—(NORTH CENTRAL BLANK).

	North Central.	Illinois.	Twp. H. S.
Per cent in fourth year.....	15.9	15.2	15.9
Per cent in third year.....	19.5	18.4	20.1
Per cent in second year.....	26.5	27.2	26.7
Per cent in first year.....	38.1	39.2	37.1

It shows the percentage of students in each of the four years in the case of the North Central Association schools, the Illinois high schools, and the township high schools. Reports in this table, however, include only those schools which are accredited by the North Central Association. As would be expected, the proportion of people in the first year in this group of high schools is smaller than in the high school investigated by the present study. It will be noted that in Table LXI the information covers 454 schools. A large number of them are accredited neither by the North Central Association nor by any college.

As a part of this distribution of students throughout the four years it is interesting to note the situation regarding graduates. This item was reported in Item 7 of Form 2 and is tabulated in Table LXVIII.

The number of graduates is grouped to the top as 1-4, 5-9, 10-14, etc. The number of schools having graduates to the number indicated by the groups is placed below the number groups. For example, reading the horizontal column head City High Schools, Class A, we note that 70 schools had 1-4 graduates, 106 schools had 5-9, 50 schools had 10-14, and so forth. In similar manner the entire table may be read.

As is natural, the number of graduates increases with the size of the school. It will be noted, however, that in every case except Class E the number of graduates in the case of the township high schools is smaller than in the city high schools. This conclusion is based upon a consideration of the medians shown and a study of the practice of the middle 50 per cent of the schools. For example, in considering Class D it will be noted that the median number of graduates for city high schools of this size is 49. The middle 50 per cent of the schools of this size graduate from 44 to 65. On the other hand, the median number of graduates of township high schools of Class D is 46. The middle 50 per cent of the schools graduate from 39 to 58. It should be said in this connection that this information applies to the graduates of 1915. It should also be said in this connection that a school can get some idea as to whether or not it has the normal number of graduates by a study of this table. It can readily determine whether its number of graduates is near the median of the schools of its size and standing. If its number of graduates rather constantly is between the median and the third quartile, it is very certain that the conditions in the school are satisfactory as to the number of students who are passing through the school successfully.

Occasionally throughout this study it has been interesting to check information from other quarters. Tables have been constructed which have not been included in this study, hence, their only value has been to

TABLE LXVIII—HIGH SCHOOL GRADUATES OF THE YEAR 1915—(FORM 2, NO. 7).

	Number of schools.	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-Over.	Total.	Average.	Median.	First.	Third.	Quartile Deviation.	
A																													
1-100																													
City H. S.	249	70	106	50	17	4																	1,871	7.5	7	4	11	3.5	
Twp. H. S.	44	16	16	7	3	2																	342	7.7	7	3	10	3.5	
Total	291	86	122	57	20	6																2,213							
B																													
101-200																													
City H. S.	70	1	1	13	23	17	8	4	2	1													1,370	19.5	19	15	23.5	4.25	
Twp. H. S.	21			5	8	4	4																384	18.2	18	14½	21	3.25	
Total	91	1	1	18	31	21	12	4	2	1												1,754							
C																													
201-300																													
City H. S.	11						3	2	3	2													359	32.6	34	28	38	5	
Twp. H. S.	14			1	1	1	4	1	5													389	27.7	27.5	20	37.5	8.75		
Total	25			1	2	1	7	3	8	2												748							
D																													
301-500																													
City H. S.	11									2	3	1		1	1	1							582	52.9	49	44	65	10.5	
Twp. H. S.	13									2	2	1	1	1	1	1						628	48.3	46	39	58	9.5		
Total	24									3	4	2	1	2	1	2						1,210							
E																													
501-Over																													
City H. S.	16										1												7	1,743	108.9	96.5	76.5	150.5	37
Twp. H. S.	3																					3	391	130.3	135	102	154	26	
Total	19										1											10	2,134						
Total City H. S.	355	91	107	63	41	22	11	6	5	5	4	1	1	1	1	2	2		2	2	1	7	5,995						
Total Twp. H. S.	95	16	17	14	12	7	8	1	8	2	2	1	1	1	1	1			1		3	2,184							
Grand total...	450	87	124	77	53	29	19	7	13	7	6	2	2	2	1	3	2	1	2	2	1	10	8,069						

check the information which is tabulated and herein published. In this connection Table LXIX is presented.

TABLE LXIX—HIGH SCHOOL GRADUATES OF THE YEAR 1915—(SPECIAL REPORT).

	A 1-100	B 101-200	C 201-300	D 301-500	E 501-Over.	Total.
Total schools.....	39	24	14	12	4	93
Graduates—						
1- 4.....	14	1				15
5- 9.....	16		1			17
10-14.....	8	6		1		15
15-19.....	1	6	1			8
20-24.....		5	1			6
25-29.....		5	4			9
30-34.....			1			1
35-39.....			5	3		8
40-44.....		1	1	1		3
45-49.....				2		2
50-54.....				1		1
55-59.....				1		1
60-64.....				1		1
65-69.....						
70-74.....				1		1
75-79.....						
80-84.....				1		1
85-89.....					1	1
90-94.....						
95-99.....						
100-Over.....					3	3
Total.....	39	24	14	12	4	93
Average.....	6	18	30	48	119	
Median.....	6	17½	30½	46	118½	
First Quartile.....	3	14	24½	39	95	
Third Quartile.....	9	26	38½	76		
Quartile Deviation.....	3	6	7	18½		

In order to get information of a certain type in one of the circulars sent out from the State Superintendent's office in the spring of 1916, a report was made concerning the number of graduates for 1915.

These were voluntary reports and did not cover the entire field. It did cover, however, the condition in 93 township high schools. The graduates of 1915, based on this report are shown in this Table LXIX. An examination of the medians here shown indicates that the medians found here are almost the same as in Table LXIII. The corroboration of the two tables is very interesting. This table is included for comparative purposes and has no other value.

An important consideration in studying the student body of the high school is to learn the extent of the population in the district under 21. This information was given under Item 1 of Form 2, and is tabulated in Table LXX.

We have here an opportunity to find out the number of people in the various districts under 21 years of age and the proportion of this possible school population which is in actual attendance in the high school.

Reading this table from top to bottom, we find that there are 13 city high schools of Class A in districts where there are less than 100 children under 21 years of age. There are 71 in districts having from 101 to 200 and so on. Examining the medians we notice that, for example, in Class D in the case of city high schools there are 2,789 children less than 21 years of age. In the case of township high schools of this group

TABLE LXX—SCHOOL/CENSUS—(FORM 2, NO. 1).

	Number of schools.	1-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1,000	1,001-1,500	1,501-2,000	2,001-2,500	2,501-3,000	3,001-4,000	4,001-5,000	5,001-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A	City H. S.	239	13	71	72	32	19	4	8	7	4	2	4	1	2				77,921	326	234	1,738	371	99
	Twp. H. S.	30	2	2	4	5	6	1	2	1	1	2	1						15,005	500.1	428½	2,61½	596	167.25
	Total.	269	15	73	76	37	25	9	10	7	5	2	6	2					92,926					
B	City H. S.	67					3	12	8	9	6	1	21	1					55,965	835.2	763	584	1,080	248
	Twp. H. S.	20					2	1	2	2	2	5	1						19,034	951.7	853½	580½	1,209½	314.5
	Total.	87					4	15	10	10	8	3	26	2					74,999					
C	City H. S.	10										3	4						24,493	2,449.3	1,764½	1,291½	3,566	1,137.25
	Twp. H. S.	10									1	1	1	4					24,015	2,401.5	2,457½	1,522	3,014	746
	Total.	20									1	4	5	4					48,508					
D	City H. S.	10												3	3	1	2	1	35,039	3,503.9	2,789	2,406	4,694	1,277.5
	Twp. H. S.	13									1	1		2	3	4	1		41,308	3,177.5	2,857	1,632	4,187	1,277.5
	Total.	23									1	1		5	6	1	6	2	76,347					
E	City H. S.	16																	132,235	8,264.6	6,086½	5,491	11,181	2,845
	Twp. H. S.	3																	23,132	7,110.6	6,912	2,760	13,400	5,350
	Total.	19																	155,367					
	Total City H. S.	342	13	71	72	38	22	16	16	10	3	28	6	5	3	3	4	16	325,653					
	Total Twp. H. S.	76	2	2	4	8	7	8	4	1	4	3	9	3	6	1	5	3	122,494					
	Grand total.	418	15	73	76	46	29	24	20	17	14	6	37	9	11	9	4	19	448,147					

there are 2,857 children less than 21 years of age. In the case of city high schools in Class D the middle 50 per cent of the high school districts have from 2,406 to 4,695 children less than 21. The middle 50 per cent of the high schools of this size have in their districts from 1,632 to 4,187 children less than 21. In other words, in order to support a high school of from 300 to 500 pupils in the State of Illinois there are likely to be in the district in the neighborhood of 3,000 children under 21.

Further inspection of the table shows that in every case there is a larger number of children under 21 in the township high school districts than in the city high school districts. This, of course, means that there is a smaller proportion of the students going to high school in the township high school districts than in the city high school districts.

In the light of information that is to be brought out later in this study it is certain that this is due to the fact that the township high school districts cover a wider territory than the city high school districts, that the population is not so centralized as in the case of the city high schools, and that a practical means of obviating this difficulty is transportation. It will be found later but should be emphasized here that one of the most important needs in the educational development of the State is a provision by law not only permitting but requiring school authorities to transport, free of charge, those students in the high school districts who are not within easy walking distance of the building. An examination of the quartile deviations shows a wide range in the number of people who are of school age in the various groups. While, of course, this table shows all the children under 21, yet children of school age would almost certainly show a like variation. This wide variation indicates that the communities of the State have not completely settled down into a uniform practice of sending their children to high school, some communities sending a large proportion and other sending a small proportion of their children.

Nevertheless the uniformity is sufficiently established so that within limits it is possible to predicate a high school of a given size if there are a certain number of children under 21. For example, in township high schools of Class C the median number of children is 2,457. That is, reading it the reverse way, if there are 2,457 minors in a township district, the chances are even that it has a high school varying in enrollment from 201 to 300. If we note the first and third quartiles, we find that the middle 50 per cent of township high schools of this size have an underlying population of minors of from 1,522 to 3,014.

It is then perfectly feasible in laying out new township high school districts to include a population sufficiently large to make possible a high school of a certain size. In the example noted above, if from 1,522 to 3,014 minors are included, it is reasonably probable that the high school will enroll from 200 to 300 students. Fifty per cent of the schools in present practice actually realize this enrollment. Twenty-five per cent of the cases will enroll less than 200, and 25 per cent more than 300. Consequently, this information can be used in a practicable way in establishing high schools where it is the purpose to include a population sufficiently large to insure a high school large enough to be efficient.

Corollary to this matter of the census is that of the elementary enrollment, that is, that portion of the population under 21 which is in actual attendance. In this case in the elementary schools this information is reported in Item 2 of Form 2, and is tabulated in Table LXXI.

This table is constructed like the preceding one. Reading it from right to left as in the preceding case, we notice that there are 46 districts having city high schools of Class A which show less than 100 enrolled in the elementary schools. There are 115 city districts of Class A having 101 to 200 in the elementary schools, and so on throughout the table. Note that the total elementary enrollment in the districts covered by the 436 high schools is 266,088.

Examining the latter part of the table it will be noted that in every case the elementary enrollment in the township high school districts underlying the township high schools is larger than the elementary enrollment contributing to the city high schools. An examination of the medians and quartiles brings out this fact very clearly. The significance of this is that a smaller part of the elementary enrollment in the underlying districts of the township high schools attend high school in proportion to the number that attend city high schools. This fact is in conformity with that noted in connection with the previous table, and is accounted for in the same way, namely, that the township high schools include larger districts and thus it is more difficult for students to attend township high schools than city high schools. A note of caution is due here. It may be thought in connection with a statement of this kind that township high schools fail to draw students from elementary schools in the same way as city high schools. This is not true, because of the fact that if the township high schools were not in existence a large proportion of the people who are actually attending would have no high school opportunities at all. This is borne out also by the fact that there are scores of communities in Illinois that have no high school advantages, and it is also supported by the fact previously shown in this chapter that the city high schools have a larger number of tuition pupils coming from the immediate vicinity from schools who have no high school advantages of their own, and if there were township high school districts covering these city districts, there would not be so many tuition students.

In a way similar to that indicated in the discussion of the table on the school census, this table also provides information on expectancy concerning the size of the high school. For example, if a proposed district had from 804 to 1,506 elementary pupils in it, it would be reasonable to expect that district to develop a high school having an enrollment of 201 to 300. This follows because 50 per cent of the township high schools of this group actually have from 804 to 1,506 elementary pupils in their districts. A similar calculation could be made for schools of any other size.

A still further item of information along this same line is noted in connection with the information reported in Item 2 of Form 2, and is tabulated in Table LXXII.

This table shows the number of people in the eighth grade in the underlying districts of the township high schools and in the contributing



TABLE LXXII—EIGHTH GRADE ENROLLMENT—(FORM 2 NO. 2).

	Number of schools.	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	100-125	126-150	151-175	176-200	201-300	301-400	401-500	501-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A 1-100	City H. S.....	247	63	114	85	23	9	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,481	18.1	16	10	23	6.5
	Twp. H. S.....	30	1	13	8	3	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	729	24.3	23½	14	32½	9.25
	Total.....	277	64	127	43	26	13	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,210					
B 101-200	City H. S.....	69	..	4	15	25	9	5	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,712	39.3	36	29	45½	9.75
	Twp. H. S.....	20	1	2	2	3	4	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	882	44.1	47	29	55	13
	Total.....	89	1	6	17	28	13	13	7	2	1	.....	.....	.....	.....	.....	.....	.....	.....	3,594					
C 201-300	City H. S.....	11	.....	.....	.....	.....	.....	.....	.....	2	1	1	1	1	1	.....	.....	.....	.....	1,284	116.7	97	69	169	50
	Twp. H. S.....	12	.....	.....	.....	.....	.....	.....	.....	2	3	2	1	3	1	.....	.....	.....	.....	1,081	90.08	83	68	120	26
	Total.....	23	.....	.....	.....	.....	.....	.....	.....	4	4	3	4	4	2	1	.....	.....	.....	2,365					
D 301-500	City H. S.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,495	135.9	132	122	164	21
	Twp. H. S.....	13	.....	.....	.....	.....	.....	.....	.....	1	1	3	1	1	1	.....	.....	.....	.....	1,624	124.9	120	71½	166½	47.5
	Total.....	24	.....	.....	.....	.....	.....	.....	.....	2	2	4	2	2	2	1	.....	.....	.....	3,119					
E 501-Over	City H. S.....	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,043	377.6	333	234	505	135.5
	Twp. H. S.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,127	375.6	383	102	642	270
	Total.....	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,170					
Total City H. S...	354	63	118	50	48	19	11	8	2	2	3	5	6	3	6	2	2	2	4	16,015					
Total Twp. H. S...	78	2	16	10	6	8	7	5	5	4	1	1	1	1	1	2	.....	.....	.....	5,443					
Grand total....	432	65	134	90	54	27	18	13	7	6	2	8	9	7	4	7	4	2	5	21,458					

elementary schools of the city high school districts. This table is constructed in a manner exactly similar to the two preceding ones.

Reading this table from right to left, there are 63 city high schools of Class A in which the contributing elementary school has from 1 to 10 in the eighth grade; 114 having from 11 to 20 in the eighth grade. The table is thus read throughout.

An examination of the latter part of the table shows that the number in the eighth grade is larger in the case of the township high schools than in the city high schools in every instance, with the exception of Classes C and D. For example, in Class B the elementary schools contributing to the city high schools show that there is a median of 36, and that the middle 50 per cent have 29 to 48 in their eighth grades. The median number of eighth grade pupils in the underlying districts of the township high schools of Class B is 47. The middle 50 per cent of these districts have from 29 to 55. The reason for this is explained in exactly the same way as in the previous table, namely, that the pupils involved live at a farther distance from the high school and hence are not as able to attend.

In considering the information shown in this chapter, it is noted that there are a very large number of high schools involved which are small high schools. For example, there are 298 high schools which have an enrollment of less than 100. One of the important needs in this connection is to so distribute the districts of the State that these high schools will be increased in size so as to increase their efficiency.

It was noted in particular that the average attendance corresponds to enrollment. It was also noted that in studies of this kind it would be better to take the total days attendance or the per diem attendance as a basis for calculations. It was also noted that the length of the school term was practically the same for all sizes and classes of schools.

Various features as to the time spent by the schools of the North Central Association, the schools of Illinois, and the township high schools were considered in separate tables, and it was found that as far as the number of weeks is concerned, the number of recitations in the daily program and the number of 60-minute periods, the amount of time spent in these various periods is practically the same in the township high schools and in the city high schools. There is a smaller number of tuition pupils in the township high schools than in the city high schools. This is due to the fact that the township high schools more completely cover the territory naturally tributary to them than do the city high schools. The township high schools have a larger proportion of their students in the first year class than the city high schools. Correspondingly they have a smaller number of pupils in their upper classes and among their graduates than the city high schools. This is due to the fact that pupils coming to these high schools come from a wider territory and have not the same convenience of transportation. The township high schools have a smaller proportion of the population under 21 enrolled than city high schools. They also have a smaller proportion of the elementary enrollment than the city high schools. The township high school districts have a smaller proportion of eighth grade pupils

than city high schools. All three of these facts are due to the same cause as was mentioned above, namely, the relatively larger difficulty in transportation.

## CHAPTER IX.

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### EFFICIENCY OF HIGH SCHOOL GRADUATES IN COLLEGE.

Up to the present time we have been discussing the various factors that go into the education of high school students. No emphasis has been placed upon the subject of efficiency. There is no question but that the various factors heretofore discussed have a direct bearing upon the efficiency of high school students, excellence of the appointments in the building, provision for permanent equipment, expenditures for current supplies, the training and experience of executive officers and teachers, the elementary preparation of high school students, and the facilities of transportation. All of these factors must necessarily influence the efficiency of high school students. However, it cannot be assumed that the quantitative measurement of any of these factors gives a final measure of the efficiency of high school education.

One of the most important problems in secondary education to-day is the measurement of such items as those mentioned above. No adequate standards in providing for these various influences in secondary education may be formulated until a research into their effects on the student body can be made.

In some of the high school courses of study tests have been evolved and tentative standards set up. We are, however, at the very beginning of this evolution and it is not at present reliable enough to base conclusions upon, and in any case even if these tests had been available, no opportunity was presented in the present investigation to use them.

The real test of a system of education is the permanent influence on the lives of the students that come under its influence. This is a difficult standard to apply. The closest approach we have to it so far as high school students are concerned is their careers in college. In a series of researches that have been conducted in recent years it has been found that high school students on the whole perform in college about as they do in high school in the matter of their efficiency in the college courses as shown by the college marks. For example, the great majority of students who are in the highest third of their graduating class in high school acquire and retain a position in the highest third in college. This is also true of the first and second thirds of the high school graduating classes when they go to college. There are, of course, exceptions to this in the case of a good student in high school for various reasons becoming a poor student in college and vice versa, but these are exceptional cases.

In order that we might have the evidence which the university might afford in determining the relative efficiency of the various groups of high schools a study was made of the records of freshman students in the University of Illinois for the years 1911-12, 1912-13, 1913-14 and

1914-15. I am deeply indebted to Professor H. A. Hollister of the University of Illinois for providing me with transcripts of these records, which I have tabulated in this chapter.

Before going into these marks in detail, however, I wish to examine the reports of the number of graduates who went from high schools of the various groups to higher institutions of learning. This was provided under Item 61 of the Approval Blank. The question calls for the number of graduates of the high schools who are at present attending advanced institutions of learning. This information is tabulated in Table LXXIII.

Of the 444 institutions reporting on this section of the Approval Blank only 84 failed to report on the item, so that this information covers the situation in 360 high schools in Illinois and is hence very complete.

Reading the table from left to right, it will be seen that of the 193 city high schools of Class A, 136 of them have from 1 to 9 graduates attending advanced institutions of learning; 50 of them have from 10 to 19. In the same manner the table is read throughout. The median, the first quartile and the third quartile were calculated in each case. An inspection of the table will show that there is no material difference in the number of graduates attending advanced institutions of learning in the case of township high schools as compared with city high schools. In fact, the total number of high school students attending from city high schools and township high schools is exactly the same, that is, 13. It should be noted in this connection that these medians are not actual but are counted by the group method. The median number of city high school graduates in Class A is larger and there are exactly the same number in this group for the township high schools. Attention should be called to the fact that as the size of the school increases not only does the number of graduates increase but this number increases relatively to the size of the school. That is, for example, Class D sends more than four times the number of graduates to advanced institutions of learning than Class A does. The remarkable feature about this table is its regularity, that is, schools of a given size can be expected to send about so many graduates to advanced institutions of learning.

Returning again to the transcripts of freshmen records furnished from the University of Illinois, attention is called to the fact that in the present investigation there are 2,354 of these records studied, covering 20,749 courses in the University. With so large a number of students and courses covering a period of four years it ought to be possible to reach rather definite conclusions.

Upon examination of these transcripts it was found that a few were from high schools that could not be identified in the State. These were excluded from the study. The number mentioned above consists of those actually included in the study. Still further, in some of the records which were included in this study there were certain symbols used in the place of grades, and since it was not possible to compile them and indicate them in the tabulations it was decided to include them in a separate tabulation so that we might have definite information covering the subject entirely. The symbols used were as follows: Inc, WP, AB,

TABLE LXIII--NUMBER OF HIGH SCHOOL GRADUATES ATTENDING ADVANCED INSTITUTIONS OF LEARNING--(APPROVAL BLANK.  
NO. 61).

	Number of schools.	Number omitted.	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-149	150-199	200-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A																					
1-100	243	50	136	50	6	1										193		7	4	11	
	47	15	23	8	1											32		7	2	11	
	Total.....	290	65	159	58	7	1									225					
B																					
101-200	68	5	3	3*	17	3	1	1	1	1						63		17	13	24	
	20	3	3	6	3	1	1									17		16	11	24	
	Total.....	88	8	6	45	20	4	2	1	1						80					
C																					
201-300	13	2	3	2	3	2	2									13		28	14	41	
	13	3	4	3	3	3						1				10		24	17	33	
	Total.....	25	3	2	7	5	6	2				1				23					
D																					
301-500	11	2			1	3	2	1	2	1			1			9		44	33	72	
	11	1			1	3	1	1	2	1						10		44	25	65	
	Total.....	22	3		1	4	3	2	2	2			1			19					
E																					
501-Over	15	5					1	2	3	1	1		1	1		10		67	58	101	
	3								1							3		64	14	174	
	Total.....	18	5		1		1	2	4	1	1		1	2		13					
Total City H. S.	350	62	141	89	26	10	6	4	4	3	1	1	2	1		288		13	5	14	
Total Twp. H. S.	94	22	26	23	10	5	2	1	3	1			1			72		13	7	25	
Grand total.....	444	84	167	112	36	15	8	5	7	4	1	1	2	2		360		10	5	18	

EX, D. In a letter dated April 27, 1916, Professor Hollister very kindly interpreted these symbols as follows:

WP—is merely an abbreviation used in the Registrar's office and means that the student has withdrawn from the subject with permission.

Inc—Incomplete, probably requiring the submission of notebooks or of some other collateral work required.

AB—Absent. Meaning that the final examination was not taken.

EX—Excused, which means about the same thing.

D—means dropped, which would mean that the student was dropped from the course from some irregularity or inefficiency.

The use of these symbols was tabulated in Table LXXIV after the manner followed throughout this study.

In the horizontal column marked "Number of Schools" the whole number of schools comprising this investigation are shown. In the horizontal column immediately below it the percentages of these schools are shown, that is, the percentage of Class A which are township high schools and the percentage which are city high schools. This is found by adding the number of township high schools and the number of city high schools together and finding the percentage each group is of the total. Similarly in the column marked "Total Symbols" the same procedure is followed. For example, the total symbols for the city high schools of Class A are added to the total symbols for the township high schools of Class A and the percentage which each group is of the total is calculated and set down in the appropriate column. The purpose of this calculation is to determine the relation of the ratio of the symbols to the ratio of the schools. An examination of the two columns shows very definitely that the percentage of irregularities is fairly equivalent with that of the schools, except in the cases of Class C and Class D, in which the ratios do not at all coincide. On the basis of these facts we are justified in passing over the matter of irregularities and neglecting them in a consideration of the later tabulations. This is because, as stated above, there is fairly even calculation between the number of irregularities and the number of schools in each group.

The first form in which these transcribed records are tabulated is shown in Tables LXXV to LXXIX inclusive. Table LXXV exhibits the records for the year 1911-12, LXXVI for 1912-13, LXXVII for 1913-14 and LXXVIII for 1914-15. All the information included in Tables LXXV to LXXVIII inclusive is recapitulated in Table LXXIX, that is, Table LXXIX comprises the records of all the 2,354 students and the 20,749 courses which they took.

Table LXXIX is constructed so far as the distribution of the schools is concerned in exactly the same way as the preceding ones. The first horizontal column shows the number of schools involved. Now it will be seen that there is quite a discrepancy between the number of schools shown here and the number shown in any one of the individual years given in the preceding table. For example, there are 298 city high schools of Class A shown in this table, whereas there are only 72 city high schools of Class A shown in Table LXXV. This is due to the fact that in Table LXXIX the high schools are repeated, that is, in this column under discussion if a school had freshmen in each of the four

TABLE LXXIV—IRREGULARITIES IN COLLEGE FRESHMAN RECORDS—(TRANSCRIPTS OF FRESHMAN RECORDS AT UNIVERSITY OF ILLINOIS).

	A 1-100		B 101-200		C 201-300		D 301-500		E 501-1,000		F 1,001-Over.		Total City H. S.	Total Twp. H. S.	Grand total City Twp. H. S. and Twp. H. S.
	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.									
Inc.....	20	3	14	3	7	18	10	18	1	7	2	80	23	103	
W. P.....	20	3	19	1	6	25	10	20	6	17	1	107	24	131	
A. B.....	58	8	54	11	14	61	20	47	11	23	3	258	60	318	
Ex.....	21	1	4	11	2	13	7	28	5	3	.....	71	28	97	
D.....	29	9	10	3	3	18	5	23	2	13	2	96	24	120	
Total symbols.....	154	23	103	31	26	136	53	136	25	66	5	624	163	787	
Total per cent.....	87	13	76.9	23.1	52.7	47.3	28	84.5	15.5	93	7	79.3	20.7	.....	
Number schools.....	298	33	171	51	27	33	47	38	8	32	4	646	167	.....	
Per cent.....	90	10	77	23	45	55.3	44.7	89.8	10.2	88.8	11.2	79.5	20.5	.....	

Four years combined.

TABLE LXXV—DISTRIBUTION OF FAILURES AMONG COLLEGE FRESHMEN AT THE UNIVERSITY OF ILLINOIS.

	A 1-100		B 101-200		C 201-300		D 301-500		E 501-1,000		F 1,001-Over.		Total City H. S.	Total Twp. H. S.	Grand total City Twp. H. S. and Twp. H. S.
	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.									
Number of schools.....	72	6	37	11	7	12	8	17	3	7	.....	152	37	189	
Whole number taking courses.....	126	12	78	24	30	112	32	107	27	64	.....	517	121	638	
Number failing in one or more courses.....	58	10	36	13	15	51	8	43	9	19	.....	222	49	271	
Per cent of students failing in one or more courses.....	46.03	83.33	46.15	54.16	50	45.53	25	40.18	33.33	29.68	.....	42.94	40.49	42.47	
Whole number of courses taken.....	1,081	93	680	196	248	907	278	909	246	555	.....	4,380	1,055	5,435	
Number of courses failed.....	102	21	62	32	28	89	14	73	17	30	.....	384	97	481	
Per cent of courses failed.....	9.43	22.58	9.11	16.32	11.29	9.81	5.03	8.03	6.91	5.4	.....	8.76	9.19	8.85	

Year 1911-1912

TABLE LXXVI.

Year 1912-1913	A 1-100		B 100-200		C 201-300		D 301-500		E 501-1,000		F 1,001-Over.		Total City H. S.	Total Twp. H. S.	Grand total City H. S. and Twp. H. S.
	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.									
Number of schools.....	76	7	13	8	7	8	15	2	7	1	162	38	200		
Whole number taking courses.....	131	14	102	32	34	129	95	18	63	5	554	129	683		
Number failing in one or more courses.....	59	5	41	11	8	50	21	9	21	.....	200	46	246		
Per cent of students failing in one or more courses.....	45.03	35.71	40.19	34.37	23.52	38.75	22.10	50	33.33	47	36.10	35.65	36.01		
Whole number of courses taken.....	1,130	122	861	276	287	1,020	882	146	562	.....	4,742	1,068	5,810		
Whole of courses failed.....	104	10	71	23	11	90	25	11	30	.....	334	89	423		
Per cent of courses failed.....	9.203	8.19	8.24	8.33	3.83	8.84	3.17	7.53	5.33	.....	7.04	8.33	7.28		

TABLE LXXVII.

Year 1913-1914	A 1-100		B 101-200		C 201-300		D 301-500		E 501-1,000		F 1,001-Over.		Total City H. S.	Total Twp. H. S.	Grand total City H. S. and Twp. H. S.
	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.									
Number of schools.....	65	12	41	12	5	10	17	2	9	1	149	46	195		
Whole number taking courses.....	122	21	96	34	25	119	128	24	94	7	584	167	751		
Number failing in one or more courses.....	46	6	43	11	11	45	34	11	40	.....	219	53	272		
Per cent of students failing in one or more courses.....	37.7	28.57	44.79	32.35	44	37.81	26.56	45.83	42.55	67	37.50	31.73	36.21		
Whole number of courses taken.....	1,110	175	902	306	226	1,053	1,084	218	820	.....	5,195	1,479	6,674		
Whole number of courses failed.....	87	8	81	27	14	75	53	23	66	.....	376	101	477		
Per cent of courses failed.....	7.83	4.57	8.98	8.82	6.19	7.12	4.88	10.64	8.04	.....	7.23	6.82	7.14		

TABLE LXXXVIII.

Year 1914-1915	A 1-100		B 101-200		C 201-300		D 301-500		E 501-1,000		F 1,001-Over.		Total CHY H. S.	Total Twp. H. S.	Grand total City H. S. and Twp. H. S.
	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.									
Number of schools.....	85	9	49	15	8	8	10	12	22	1	9	2	183	47	230
Whole number taking courses.....	148	19	112	40	31	31	104	58	173	8	121	38	699	194	893
Number failing in one or more courses.....	52	3	39	15	11	11	34	22	72	3	45	9	256	63	319
Per cent failing in one or more courses.....	35.13	15.789	34.82	37.5	34.14	35.48	32.69	37.93	41.61	37.5	37.19	23.68	36.62	32.47	35.72
Whole number of courses taken.....	1,324	155	1,209	359	388	284	965	540	1,510	71	1,036	337	6,432	1,746	8,178
Whole number of courses failed.....	105	9	71	43	26	19	59	34	128	9	93	13	482	127	609
Per cent of courses failed.....	7.93	5.806	5.87	11.97	6.701	6.69	6.11	6.29	8.47	12.67	8.97	3.85	7.49	7.27	7.44

TABLE LXXXIX.

Four years combined.	A 1-100		B 101-200		C 201-300		D 301-500		E 501-1,000		F 1,001-Over.		Total CHY H. S.	Total Twp. H. S.	Grand total City H. S. and Twp. H. S.
	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.	City H. S.	Twp. H. S.									
Number of schools.....	298	34	171	51	33	47	38	71	8	32	4	646	168	814	
Whole number taking courses.....	527	66	388	130	120	464	168	503	7.7	342	50	2,354	611	2,965	
Number failing in one or more courses.....	215	24	159	50	40	180	56	170	32	125	9	897	211	1,108	
Per cent of students failing in one or more courses.....	40.79	36.36	40.97	38.46	33.33	38.79	33.33	33.79	41.55	36.54	18	38.105	34.53	37.36	
Whole number of courses taken.....	4,645	545	3,652	1,137	1,052	3,945	1,484	4,385	679	2,973	451	20,749	5,348	26,097	
Whole number of courses failed.....	398	48	285	125	70	313	98	282	60	219	13	1,576	414	1,990	
Per cent of courses failed.....	8.56	8.807	7.803	10.99	6.65	7.93	6.603	6.43	8.82	7.36	2.88	7.595	7.74	7.625	

years under discussion it would be reported in this column as four high schools, whereas it would be reported as one high school in each of the preceding tables.

The second horizontal column represents the whole number of students taking courses in the University under the various groups and classes. The horizontal column immediately below it is the number failing in one or more courses. The fourth horizontal column reading down is the percentage of students failing in one or more courses. This is the percentage of the third column based upon the second column. For example, in the city high schools of Class A there are 527 taking courses in the University. Of these 215 failed, that is, 215 is 40.79 per cent of 527. Reading this column we note that 40.79 per cent of graduates of city high schools of Class A failed in the freshman year during these four years. In the township high schools 36.36 per cent failed during this period of four years, and so on throughout the table.

Size School	Per Cent		
1 to 100	40.79 36.36		
101 200	40.97 38.46		
201 300	36.92 33.33		
301 500	38.79 33.33		
501 1000	33.79 41.53		
1001 Over	36.54 18.00		
TOTAL	38.10 34.53		

Fig. 26.—High School graduates failing in one or more courses at the University of Illinois. In the first vertical column the high schools are classified according to enrollment. In the second vertical column is shown the percentage of high school graduates from each group of schools failing in one or more courses in the freshman class in the University based on the total number of graduates in the University from that group of schools. The horizontal bars represent these percentages. The hollow bars represent the percentages of graduates from the city high schools and the solid bars the percentages of graduates from the township high schools.

There is a column here marked for the whole number of courses taken. For example, graduates from city high schools of Class A took 4,645 courses; similarly, graduates from the township high schools of Class A took 545 courses. Another column follows in which the number of courses failed and the percentage calculated of the number of courses failed based on the whole number of courses taken are shown. The percentage of courses failed is the last column in the table. Reading this last column in the table we note that 8.56 per cent of the courses taken by city high school graduates in Class A were failed. Similarly, 8.81 per cent of the courses taken by graduates of township high schools of Class A were failed, and so on throughout the table.

This information is shown graphically in Figure 26. Figure 26 pertains to the column marked "Per Cent of Students Failing in 1 or More Courses." The first column shows the size of the school, the second

shows the percentage of students failing in one or more courses. This percentage is represented graphically at the right by hollow bars for the city high schools and solid bars for the township high schools.

Note that in Class A 40.79 per cent of the graduates from city high schools failed in one or more courses, and this is represented by the hollow bar adjacent to it. Similarly, 36.36 per cent of the graduates of township high schools taking courses in the University failed, and this percentage is represented by the solid bar adjacent to it.

By studying the horizontal columns of figures marked "Per Cent of Students Failing in One or More Courses" and examining the graph at the same time certain conclusions are outstanding.

The percentage of students failing in one or more courses in the University is distinctly larger in the case of city high schools than in the case of the township high schools in every class except Class E. Disregarding the class divisions and taking the students in the aggregate, it is also to be noted that the percentage of students who fail is larger in the case of city high schools as compared to township high schools. The ratio is the percentage of 38.1 per cent as compared to 34.53 per cent.

A third conclusion to be drawn from this table and graph is that the students from the smaller schools fail in larger numbers than those from the larger ones, although this difference is not as marked as one might expect.

A fourth fact is that there is a smaller percentage of students failing in township high schools which have underlying them a well graded system of elementary schools. In a preceding chapter it was found that the enrollment in township high schools of Classes A and B was largely made up of pupils coming from one-room country schools, and village schools of from 2 to 5 teachers. In township high schools of 200 enrollment and over or in Classes C and D the predominating part of the enrollment comes from well graded elementary schools. In drawing comparative conclusions here it is well to disregard Classes E and F since the number of township high schools shown is so small. It is clear then that the township high schools surpass the city high schools as regards the percentage of students failing in one or more subjects when they have underlying them well graded elementary school systems as in Classes C and D.

The horizontal column marked "Per Cent of Courses Failed" is represented graphically in Figure 27. This graph is constructed in exactly the same manner as the preceding one. It will be noted that here again the percentage of courses failed is greater in the case of the small high schools than in the large ones.

Here again it is well to disregard classes E and F because the number of township high schools involved is so small as to be inconclusive as regards a comparison of township high schools and city high schools. In the percentage of courses failed it is evident again that the township high schools which have a great majority of their students coming from well graded elementary schools show greater efficiency than the city high schools of the same approximate size. In the smaller high schools as

in Classes A and B the city high schools surpass the township high schools. This can be accounted for in a similar way in that the city high schools have a smaller proportion of their students coming from rural and other relatively ungraded schools.

In the aggregate the percentage of courses failed is slightly greater in the case of the township high schools than in the case of the city high schools. This difference however is a very slight percentage—15 hundredths of one per cent.

It is, however, hardly proper to base all conclusions relative to efficiency in scholarship upon the number and percentage of students failing and the number and percentage of courses failed. This is a common method of investigation which needs to be reinforced and amplified, however, by a study of the situation as regards students who are successful. Information reflecting this latter aspect of the situation is tabulated from these transcripts of freshman records in Tables LXXX to LXXXIV inclusive.

Fig. 27.—Courses failed by high school graduates in the freshman class of the University of Illinois. The high schools are classified in the first vertical column according to the number enrolled. In the second vertical column is shown the percentage of courses failed by graduates from each group of schools based on the entire number of courses taken by graduates from that group of schools. These percentages are represented by the horizontal bars. The hollow bars represent the percentages in the case of the city high schools and the solid bars represent the percentages in the township high schools.

Size of School	Per Cent
1 to 100.	8.56 8.80
101 to 200.	7.80 10.99
201 to 300.	6.87 6.65
301 to 500.	7.93 6.60
501 to 1000.	6.43 8.82
1001 and over.	7.36 2.88
Total	7.59 7.74

Table LXXX comprises information for the year 1911-12, LXXXI for the year 1912-13, LXXXII for the year 1913-14, LXXXIII for the year 1914-15. The aggregate of all these records for the four years is tabulated in Table LXXXIV. All of these tables are constructed in the same manner. To compile these tables the record of each student was averaged, and Table LXXXIV is a summary of these averages.

In Table LXXXIV the number of averages below 70 for each group is set in the horizontal column opposite the designation "Below 70." The number of averages in each group from 70 to 74.99 is set over in the horizontal column following these figures, and so on throughout the table. In the vertical column next to the number of cases in each group is shown the percentage that this number bears to the total number of cases in this group.

There are 529 graduates from city high schools of Class A; 41 graduates or 7.75 per cent of this number received a grade of below 70. Of the total number 14.93 per cent or 79 of them received a grade of from 70 to 74.99. By a study of the various columns in this respect it is

TABLE LXXX—DISTRIBUTION OF AVERAGE GRADES AMONG COLLEGE FRESHMEN IN THE UNIVERSITY OF ILLINOIS.

Grade.	A 1-100						B 101-200						C 201-300						D 301-500					
	City H. S.			Twp. H. S.			City H. S.			Twp. H. S.			City H. S.			Twp. H. S.			City H. S.			Twp. H. S.		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.		
Below 70.....	10	7.93	4	33.33	6	7.69	6	25	2	6.45	2	11.11	13	11.60	2	6.25	13	11.60	3	3.7	13	11.60	2	6.25
70-74.99.....	23	18.25	3	25	11	14.10	2	8.33	4	12.9	4	3.7	4	12.9	1	12.5	22	19.63	1	3.7	22	19.63	4	12.5
75-79.99.....	34	26.98	1	8.33	7	28.2	7	29.16	12	38.7	8	14.81	28	25	8	25	28	25	4	14.81	28	25	8	25
80-84.99.....	30	23.81	3	23	21	26.92	4	16.66	8	25.8	10	37.03	23	20.53	7	21.87	23	20.53	10	37.03	23	20.53	7	21.87
85-89.99.....	18	14.28	1	8.33	15	19.23	4	16.66	5	16.12	8	29.62	18	16.07	10	31.25	18	16.07	8	3.7	18	16.07	10	31.25
90-94.99.....	10	7.93	3	23	3	3.84	1	4.16	1	3.12	1	3.7	8	7.13	1	3.12	8	7.13	1	3.7	8	7.13	1	3.12
95-100.....	1	.79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	126	24.23	12	9.83	78	15	24	19.67	31	5.96	27	22.13	112	21.53	32	26.22	112	21.53	27	22.13	112	21.53	32	26.22
Number of schools.....	72	.....	6	.....	37	.....	11	.....	7	.....	9	.....	12	.....	8	.....	12	.....	9	.....	12	.....	8	.....
Median.....	74.30	.....	74.30	.....	79.62	.....	78.65	.....	78.65	.....	81.60	.....	81.60	.....	80.98	.....	81.60	.....	81.60	.....	81.60	.....	80.98	.....
First Quartile.....	74.80	.....	66.61	.....	75.45	.....	68.38	.....	76.11	.....	78.75	.....	78.75	.....	75.88	.....	76.11	.....	76.11	.....	78.94	.....	75.88	.....
Third Quartile.....	84.60	.....	81.04	.....	84.60	.....	83.83	.....	83.22	.....	85.23	.....	85.23	.....	84.30	.....	84.30	.....	83.22	.....	84.30	.....	84.30	.....
Quartile Deviation.....	4.9	.....	7.215	.....	4.58	.....	7.73	.....	3.56	.....	3.24	.....	3.24	.....	5.18	.....	5.18	.....	3.56	.....	5.18	.....	5.18	.....

TABLE LXXX—Concluded.

1911-1912	E 501-1,000						F Over 1,000.						Total City H. S.		Total Twp. H. S.		Grand total City H. S. and Twp. H. S.	
	City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		Total City H. S.		Total Twp. H. S.		Grand total City H. S. and Twp. H. S.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Below 70.....	8	7.4	1	3.7	6	9.23	45	8.65	16	13.11	61	9.5						
70-74.99.....	11	10.18	1	3.7	4	6.15	75	14.42	11	9.01	86	13.39						
75-79.99.....	30	27.77	11	40.74	16	24.61	142	27.3	31	25.4	173	26.94						
80-84.99.....	26	24.07	5	18.51	13	20	121	23.26	29	23.77	150	23.36						
85-89.99.....	24	22.22	6	22.22	21	32.3	101	19.42	29	23.77	130	20.24						
90-94.99.....	8	7.4	3	11.11	5	7.69	34	6.53	6	4.91	40	6.23						
95-100.....	1	.92					2	.38			2	.31						
Total.....	108	20.76	27	22.13	65	12.5	520	80.99	122	19	642	.....						
Number of schools.....	17		3		7		152		37		189							
Median.....		80.73		81.78		82.15												
First Quartile.....		76.70		77.36		77.42												
Third Quartile.....		85.92		87.11		86.95												
Quartile Deviation.....		4.61		4.88		4.77												

TABLE LXXXI.

1912-1913	A 1-100				B 101-200				C 201-300				D 301-500			
	City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Below 70	11	8.27	1	7.14	10	9.8	4	12.9	1	2.94	6	20.08	11	8.52	3	9.67
70-74.99	20	15.03	3	21.42	15	14.7	4	12.9	1	2.94	7	24.13	20	15.5	3	9.67
75-79.99	37	27.81	2	14.27	26	25.49	5	16.12	9	26.47	7	24.13	23	17.83	5	16.12
80-84.99	33	24.81	3	21.42	27	26.47	9	29.03	13	38.23	10	34.48	36	27.9	11	35.48
85-89.99	21	15.78	3	21.42	18	17.64	7	22.58	7	20.58	6	20.98	30	23.25	8	25.8
90-94.99	11	8.27	2	14.28	5	4.9	2	6.45	3	8.82	2	6.45	8	6.2	1	3.22
95-100	1	0.74	1	7.14	1	0.98	1	3.71	1	2.94	1	3.71	1	0.77	1	3.22
Total	133	23.92	14	10.93	102	18.34	31	24.21	34	6.11	29	22.65	129	23.2	31	24.21
Number schools	76		7		44		13		7		7		13		8	
Median		79		82.77		79.97		80.87		81.69		81.91		80.78		81.67
First Quartile		75.2		73.4		75		75.94		79.38		75.8		75.04		75.75
Third Quartile		84.17		84.14		84.33		85.78		85.50		83.89		86		85.22
Quartile Deviation		4.49		6.37		4.67		5.12		3.06		4.05		3.48		4.74



TABLE LXXXII.

Grade.	A 1-100						B 101-200						C 201-300						D 301-500					
	City H. S.			Twp. H. S.			City H. S.			Twp. H. S.			City H. S.			Twp. H. S.			City H. S.			Twp. H. S.		
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.		
Below 70.....	10	8.19	1	4.76	6	6.25	4	11.76	1	4	1	2.04	7	5.88	1	2.12								
70-73.99.....	13	10.65	2	9.52	16	16.66	5	14.7	1	4	3	8.52	13	10.92	7	14.89								
73-79.99.....	26	21.31	6	28.57	23	26.04	5	14.7	6	4	8	23.32	35	29.41	7	14.89								
80-84.99.....	49	36.88	6	28.57	29	30.2	8	23.52	9	36	10	29.41	35	29.41	16	34.04								
85-89.99.....	21	17.21	3	14.28	18	18.75	11	32.35	5	20	10	29.41	22	18.48	11	23.4								
90-94.99.....	7	5.73	3	14.28	2	2	1	2.94	3	12	2	5.88	7	5.88	5	10.63								
95-100.....																								
Total.....	122	20.89	21	12.57	96	16.43	34	20.35	25	4.28	34	20.35	119	20.37	47	28.14								
Number schools.....	65		11		41		12		5		9		12		10									
Median.....		81.54		81		80.19		82.45		82.22		82.36		80.43		81.4								
First Quartile.....		76.36		77.45		75.48		74.6		78.27		78.67		76.22		77.25								
Third Quartile.....		84.74		86.71		84.14		87.18		87.92		86.11		84.89		86.78								
Quartile Deviation.....		4.19		4.63		4.33		6.29		4.83		3.72		4.34		4.77								

TABLE LXXXII—Concluded.

1913-1914	E				F				Total City H. S.		Total Twp. H. S.		Grand total City H. S. and Twp. H. S.	
	501-1,000		1,001-Over.		City H. S.		Twp. H. S.		No.	Per cent.	No.	Per cent.	No.	Per cent.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.						
Grade.														
Below 70.....	7	5.46	3	12.5	5	5.31			36	6.16	10	5.98	46	6.12
70-74.99.....	11	8.59	3	12.5	12	12.76			66	11.3	20	11.97	86	11.45
75-79.99.....	23	17.96	4	16.66	28	29.78			143	24.48	31	18.56	174	23.16
80-84.99.....	45	36.15	8	33.33	28	29.78	1	14.28	191	32.69	51	30.53	242	32.22
85-89.99.....	31	24.21	5	20.83	16	17.02	3	42.85	113	19.34	43	25.74	156	20.77
90-94.99.....	11	8.59	1	4.16	5	5.31			35	5.99	12	7.18	47	6.13
95-100.....														
Total.....	128	21.91	24	14.37	94	16.09	7	4.19	584	77.76	167	22.23	751	
Number schools.....	17		2		9		1		149		45		194	
Median.....		82		81.25		80.42		83.44						
First Quartile.....		77.67		74.72		76.42		82.44						
Third Quartile.....		85.82		84.50		84.56		89						
Quartile Deviation.....		4.08		4.89		4.07		3.28						

TABLE LXXXIII

Grade.	A 1-100				B 101-200				C 201-300				D 301-500			
	City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Below 70.....	10	6.75	1	5.26	6	5.35	8	20	2	4.87	1	3.22	7	6.73	1	1.72
70-74.99.....	23	15.54	2	10.52	14	12.5	4	10	8	19.51	7	22.58	11	10.57	8	13.79
75-79.99.....	35	23.64	3	15.78	35	31.25	7	17.5	14	34.14	6	19.35	21	20.19	16	27.58
80-84.99.....	46	31.08	5	26.31	36	32.14	8	20	9	21.95	9	29.03	32	30.76	17	29.31
85-89.99.....	28	18.91	5	26.31	13	11.6	13	32.5	8	19.51	7	22.58	25	24.03	11	18.96
90-94.99.....	6	4.05	3	15.78	8	7.14	.....	.....	.....	.....	1	3.22	7	6.73	5	8.62
95-100.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.96	.....	.....
Total.....	148	21.17	19	9.79	112	16.02	40	20.61	41	5.86	31	15.97	104	14.87	58	29.89
Number schools.....	85	.....	9	.....	49	.....	15	.....	8	.....	8	.....	10	.....	12	.....
Median.....	.....	80.87	.....	83.50	.....	80.31	.....	80.59	.....	79.20	.....	80.25	.....	82.06	.....	82.13
First Quartile.....	.....	75.82	.....	79.67	.....	76.11	.....	73.62	.....	73.57	.....	74.13	.....	77.20	.....	77.25
Third Quartile.....	.....	84.75	.....	87.80	.....	85.19	.....	88.17	.....	84.17	.....	85	.....	86.12	.....	85.5
Quartile Deviation.....	.....	4.47	.....	4.07	.....	4.54	.....	6.28	.....	4.3	.....	5.44	.....	4.46	.....	4.13



TABLE LXXXIV.

Grade.	A 1-100				B 101-200				C 201-300				D 301-500			
	City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.		City H. S.		Twp. H. S.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Below 70.....	41	7.75	7	10.6	28	7.21	22	17.05	6	4.58	11	9.09	38	8.18	7	4.16
70-74.99.....	79	14.93	10	15.15	56	14.43	15	11.62	14	10.68	11	9.09	66	14.22	22	13.09
75-79.99.....	132	24.95	12	18.18	108	27.83	24	18.6	41	31.29	25	20.66	107	23.06	36	21.42
80-84.99.....	154	29.11	17	25.75	113	29.12	29	22.48	39	29.77	39	32.23	126	27.15	51	30.37
85-89.99.....	88	16.63	12	18.18	64	16.49	35	27.13	25	19.08	31	25.61	95	20.47	40	23.8
90-94.99.....	34	6.42	8	12.12	18	4.63	4	3.1	6	4.58	4	3.3	30	6.46	12	7.14
95-100.....	1	.18			1	.25							2	.43		
Total.....	529	22.42	66	10.8	388	16.44	129	21.11	131	5.55	121	19.8	464	19.66	168	27.49
Number schools.....	298		33		171		51		27		33		47		38	
Median.....		80.39		81.05		80.11		80.50		80.75		81.31		80.54		81.65
First Quartile.....		73.97		74.23		75.45		73.72		77.12		77.48		75.50		76.6
Third Quartile.....		84.67		86.17		84.69		86		84.48		85.28		85.43		85.81
Quartile Deviation.....		4.70		5.92		4.57		6.14		3.68		3.9		4.97		4.61



easy to find out the practice of the University in its treatment of schools of the various sizes and kinds as to its distribution of grades.

There is a horizontal column for the total number of students from each group. And just to the right of the number in each case is the percentage that that group bears to the total number of students in this study, namely, 2,359. In the lower part of the table are horizontal columns for the median, the first quartile, the third quartile and the quartile deviation.

The information shown in the horizontal column for medians is shown graphically in Figure 28. This graph has a column at the left for size of the group of schools under consideration. The second column is for the median average grade in each group. The median for the city high schools is represented graphically at the right by the hollow bar. The median average grade for the township high schools in each group is represented by the solid bar.

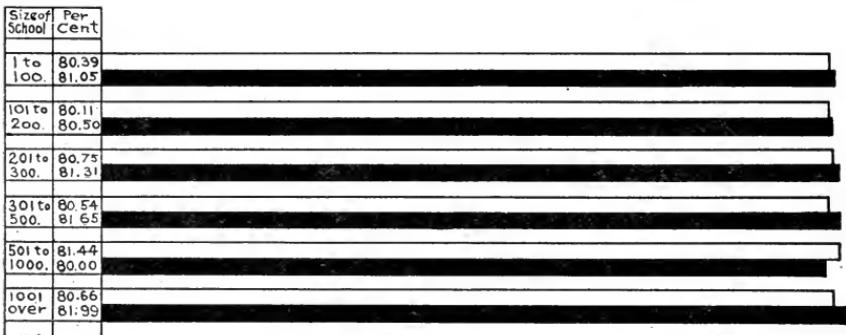


Fig. 28.—Median average scholarship of high school graduates in the freshman class of the University of Illinois. The high schools are classified in the first vertical column according to the number enrolled. In the second vertical column is shown the median average grade made by high school graduates from each group of schools. With 100 per cent as the base the horizontal bars were constructed to represent these median average grades. The hollow bars apply to city high schools and the solid bars to the township high schools.

In the inspection of the horizontal column of medians it is again advisable to omit Classes E and F for the same reasons as heretofore. Omitting these the median average grade in the township high schools is higher in every case than in the city high schools. In this connection it is well to call attention to the large difference which a variation of one per cent in the median average grade represents. Between 28 and 29 per cent of the freshmen in the University average between 80 and 85 per cent in scholarship. Hence a difference of one per cent in the median average is a large one.

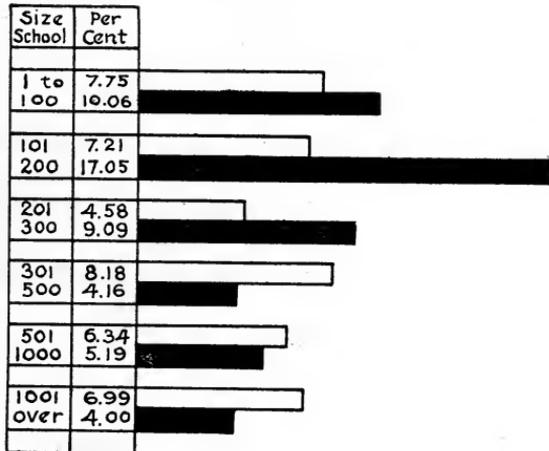
The first horizontal column in Table LXXXIV, namely that marked "Below 70," is represented graphically in Figure 29. This figure is constructed exactly like the preceding one. The first column is for the size of school, the second for the percentage; and the percentage for the city high schools is represented by the hollow bar, the percentage for the township high schools by the solid bar.

An interpretation of this column and this graph brings out very definitely that in the smaller schools, that is in Class A, B and C, the

township high schools have a markedly higher percentage of students below 70; and in the larger schools, that is in Class D, E and E, they have a markedly smaller percentage of students below 70. In other words, the larger township high schools have a distinct advantage in scholarship in the University over the smaller township high schools and over the city high schools of all classes. The natural inference from this is that the township high school, if it has the advantage of underlying districts which are highly graded, has the better opportunity for sending high grade students to the University.

In the vertical column marked "Total," which shows the total percentage for city high schools and for township high schools, we have a table of the practice of the University as it treats township high schools and city high schools as a whole. This column is represented graphically in Figure 30. This graph is constructed exactly the same as the preceding ones. It will be noted that in the case of city high schools of Class A 7.16 per cent of the students get below 70, and in the case of

Fig. 29. — High school graduates in the freshman class of the University of Illinois whose average in scholarship is "below 70." In the first vertical column the high schools are classified according to enrollment. In the second column is shown the percentage of graduates from each group of schools whose average in scholarship is below 70 based on the entire number of graduates coming from the group of schools in question. These percentages are represented by the horizontal bars. The hollow bars represent the percentages in the case of city high schools and the solid bars in the case of the township high schools.



township high schools of this class 8.67 per cent get below 70. Similarly both the table and the graph are to be read down the column. It is to be noted on the one hand that the township high schools show the largest percentage of pupils below 70. They also show the largest percentage of pupils getting between 85 and 90, also between 90 and 100. The city high schools have the largest percentage between 75 and 80, and slightly more than the township high schools between 80 and 85. In other words, the township high schools have the largest percentage of pupils who have an average below 70, and also a larger percentage of pupils getting above 85.

A study of this distribution brings out the fact that the University in its treatment of freshmen in the matter of grades follows the probability curve rather closely, with the possible exception to be noted that the university instructors use the grades from 95 to 100 very sparingly. Sometimes harsh criticism is levelled at a high school or a university because of the large number of failures. The table of the practice of the

University will not bear out this criticism. When only about  $7\frac{1}{2}$  per cent of the students have an average grade below 70 no serious criticism is justified, when general standards of current scholarship are taken into consideration.

In this connection also it should be noted that 37.36 per cent of the students failed in one or more courses. A comparison of this figure with the practice in most high schools will reveal the fact that the practice of the University corresponds almost identically with the practice in the lower schools. Most high schools fail about 32 to 37 per cent of their students in one or more courses. This is only another fact bearing upon the general proposition that the scholastic situation as shown by the high schools and the universities to which they contribute is a different aspect of the same problem. The universities and high schools meet this

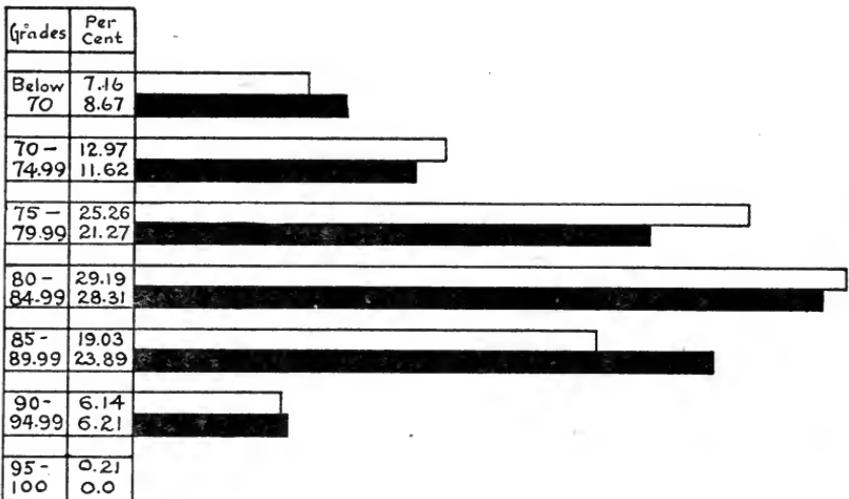


Fig. 30.—Distribution of average grades made by high school graduates in the freshman class of the University of Illinois. In the first vertical column the average grades are grouped. In the second column the percentage of graduates from township high schools securing an average within a certain group is set opposite that group. This percentage is based on the entire number of graduates coming from township high schools. Percentages in the case of city high schools are treated in a similar manner. The hollow bars represent these percentages in the case of the city high schools and the solid bars in the case of the township high school.

scholastic problem in practically the same manner so far as the marks are concerned.

The general facts which may be drawn from the investigation conducted in this chapter are as follows. A larger percentage of graduates of city high schools fail in one or more courses than graduates of township high schools.

The graduates of township high schools which have well graded elementary schools contributing to them show a smaller percentage of courses failed than city high schools of approximately the same size which are probably equally well equipped as to elementary schools. A larger percentage of the pupils from the smaller high schools fail than those from the larger high schools. The advantage of the larger schools seems

to begin here with Class B. Similarly in the percentage of courses failed the advantage is with the larger schools. Here again the advantage starts with Class B. The median average grade is higher in the case of the township high schools as compared to the city high schools. As regards the number of pupils who have averages below 70, the township high schools furnish the largest percentage of these in Classes A, B and C, again emphasizing their lack of well graded underlying elementary schools. They furnish decidedly the smaller percentage of pupils who have averages below 70 in the case of the larger schools, that is, Classes D, E and F. The township high schools in the aggregate furnish the largest percentage of students averaging below 70; they also furnish the largest percentage of students averaging above 85 per cent. It is clear that on the whole the township high schools have a higher standing in scholarship in the University of Illinois than the city high schools. They are markedly superior in those township high schools which have underlying city districts with well graded schools. The obvious conclusion to be drawn from this is that a high school with superior material and financial advantages, such as the township high schools have, will furnish better students to the University in case the underlying districts are well graded. An examination of the horizontal column for quartile deviation shows here as elsewhere in this investigation that the township high schools involved have a larger deviation than city high schools, thus showing a greater tendency toward variance in practice.

## CHAPTER X.

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### THE UNDERLYING TERRITORIAL UNIT.

The foundation of any system of schools is the territory which it covers. The limits of a district determine the basis of taxation and outline the foundation of its financial support. The geographical boundaries of a district have a very definite influence on the progress of the school. It is in the last analysis probably the most important feature. At any rate, the territorial unit joined with the social conditions environing the high school is the primary determining factor.

In order to systematize the information upon this point a report on the township high schools which was turned in to the State Superintendent's office in May, 1916, was collated in Table LXXXV.

The table pertains entirely to township high schools. There is no information available on city districts. The information pertains to 110 township high school districts. The number of districts that have from 1 to 5 square miles is shown in the appropriate group, the number from 6 to 10, and so forth. Then beginning to read the first horizontal column at the top we notice that there is one high school in Class A that has 1 to 5 square miles of territory, and one that has from 6 to 10. It will be noted that of the 4 high schools set down in Class E two of them have only from 6 to 10 square miles of territory. It is very clear that these two township high schools are merely city districts operating under the township high school law. It will be noted that there are 2 township high schools that have from 76 to 100 square miles of territory, and 2 have over 100 square miles. In other words, they have more than three regular townships in their territory.

An inspection of the latter part of the table shows that there is no material difference between the various classes as to the amount of territory which they cover. The small high schools have on the whole about as much territory as the larger ones. The school township, or 36 square miles, is the typical size. There are over 50 per cent of the township high schools covering the amount of territory included in a school township.

The conformation of the underlying territory is quite as important as the amount of territory involved. If a district is long and narrow but if it has a good transportation system such as an electric line or a railroad with adequate train service, all of its inhabitants may be more convenient to the township high school than in a territory that is more nearly square. A high school may be situated in the township in such a way that although the district is relatively small the high school may be difficult of access.

TABLE LXXXV—SIZE OF THE TOWNSHIP HIGH SCHOOL DISTRICT.

	Number schools.	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-75	76-100	Over 100.	Total.	Average.	Median.	First Quartile Deviation.	Third Quartile Deviation.	Quartile Deviation.	
A. 1-100.....	48	1	1	.....	3	5	4	1	18	4	5	6	.....	.....	48	36	36	29	48	9.5	
B. 101-200.....	29	1	.....	2	2	2	1	1	14	.....	1	5	1	1	29	41	36	54	35	9.5	
C. 201-300.....	17	1	.....	.....	.....	1	.....	.....	14	.....	.....	.....	1	.....	17	26	36	37	37½	9.5	
D. 301-500.....	12	.....	1	.....	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	12	49	36	36	130	47	
E. 501-Over.....	4	.....	2	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	4	14½	14	7	.....	.....	
Total.....	110	3	3	1	6	9	5	2	56	4	6	11	2	2	110	.....	36	36	36	.....	.....

In order to learn the situation in this matter as regards the present laws reference is made to Chapter 2, in which the legal constitution of the township high school is discussed. On page 7 eight different kinds of high school districts are shown to exist under the general law printed as appendix B as follows:

1. A school township.
2. Two or more adjoining townships.
3. Two or more adjoining school districts.
4. Parts of adjoining townships.
5. The remainder of a township part of which has been organized into a township high school.
6. A school district having a population of 2,000 or more.
7. A city and a township.
8. Part of a school township divided by a navigable stream.

As noted in Chapter 2, the general law was first passed in 1872 and was based on the Princeton Special Charter of 1867. From time to time this general law was modified to fit this or that local need as necessities arose. For example, it was decided to organize Centralia Township High School. But part of the city of Centralia lies outside of Centralia Township. The Legislature responded to the local demand by amending the law so that a township high school district might be organized so as to include a city and township, the 7th of the kinds of township high school districts enumerated above. Most of the several kinds thus enumerated, aside from the first mentioned, originated in a similar manner.

It will clarify the discussion to examine these various kinds in detail. To that end a figure is shown illustrating each kind of district. These figures are not all drawn to the same scale but the size of the districts is indicated by the sections which are numbered.

The Joliet Township High School district is selected as the example of the first kind of township high school district under the general law, in that it includes a school township. That a school township should constitute a township high school district was the original provision of the law. The Joliet district is shown in Figure 31. Note that the lines of transportation all converge into the city of Joliet. The city of Joliet is the natural school center for this township. Cities like this could well be the centers for school districts of even larger area than a school township. The Joliet high school is the largest township high school, in fact, it is the largest high school of any kind in the State outside of Chicago. It is an excellent example of the manner in which a city and its tributary rural territory may be combined to advantage into a single school district.

The Tiskilwa High School is the only example of the second kind of district, namely, "two or more adjoining townships." This district is represented in Figure 32. Note that the town in which the high school is located is almost in the center of the district and that the roads and the railroad make Tiskilwa the center of the district.

NOTE.—Transcriptions for the cuts for these figures were made by Mr. Sigel R. Bumann of Thornton Township High School from the County Survey Maps published by Rand, McNally & Co.

The third kind of township high school district is that in which two or more adjoining school districts may be organized into a township high school district. The J. Sterling Morton High School at Cicero, Ill., is an example of this class. An outline of the district is shown in Figure 33. Note that this high school district is somewhat smaller than the others. It is a compact suburban district near Chicago. Because of the relatively small size and the excellence of transportation facilities, the

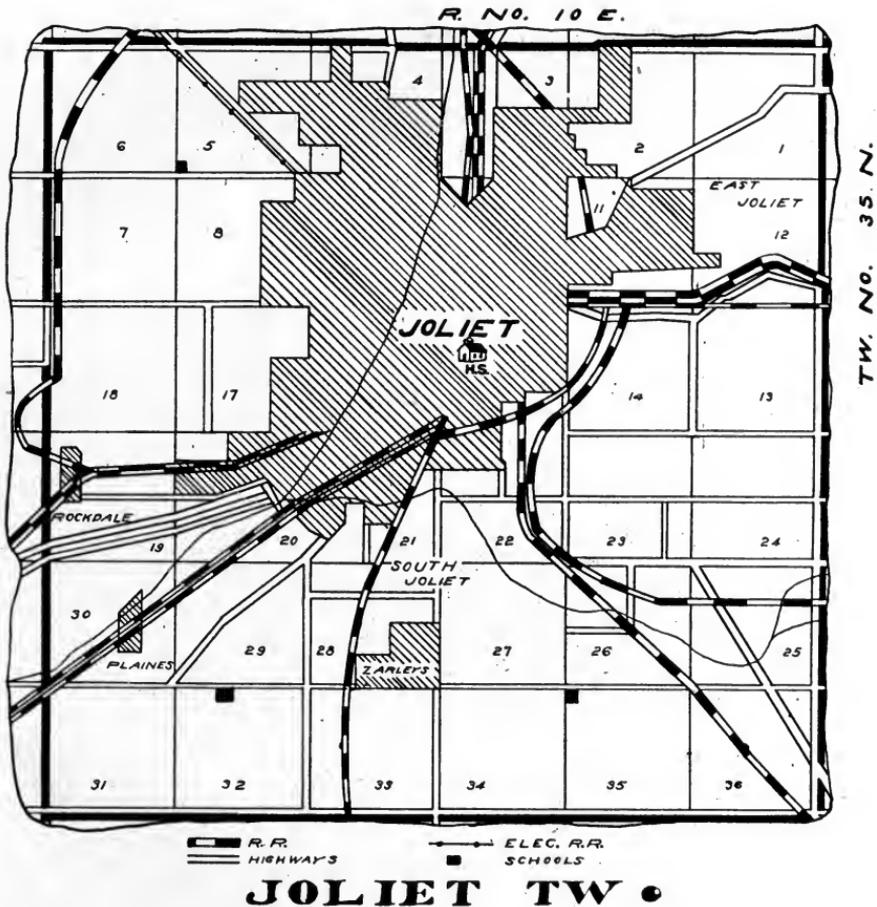


Figure 31.

school is easily accessible to all parts of the district. By the use of this section of the law many communities in the State could organize high school districts which would meet their needs, since the proper selection of school districts would in many cases allow the formation of a high school district of the desirable size and shape.

According to the fourth provision, "parts of adjoining townships" may be organized into a township high school. The Oak Park and River Forest Township High School is a good example of this, and an outline

of the district is shown in Figure 34. Part of the district, that of which River Forest is the center, is in Proviso Township; that of which Oak Park is the center is in Cicero Township. This is a compact and populous

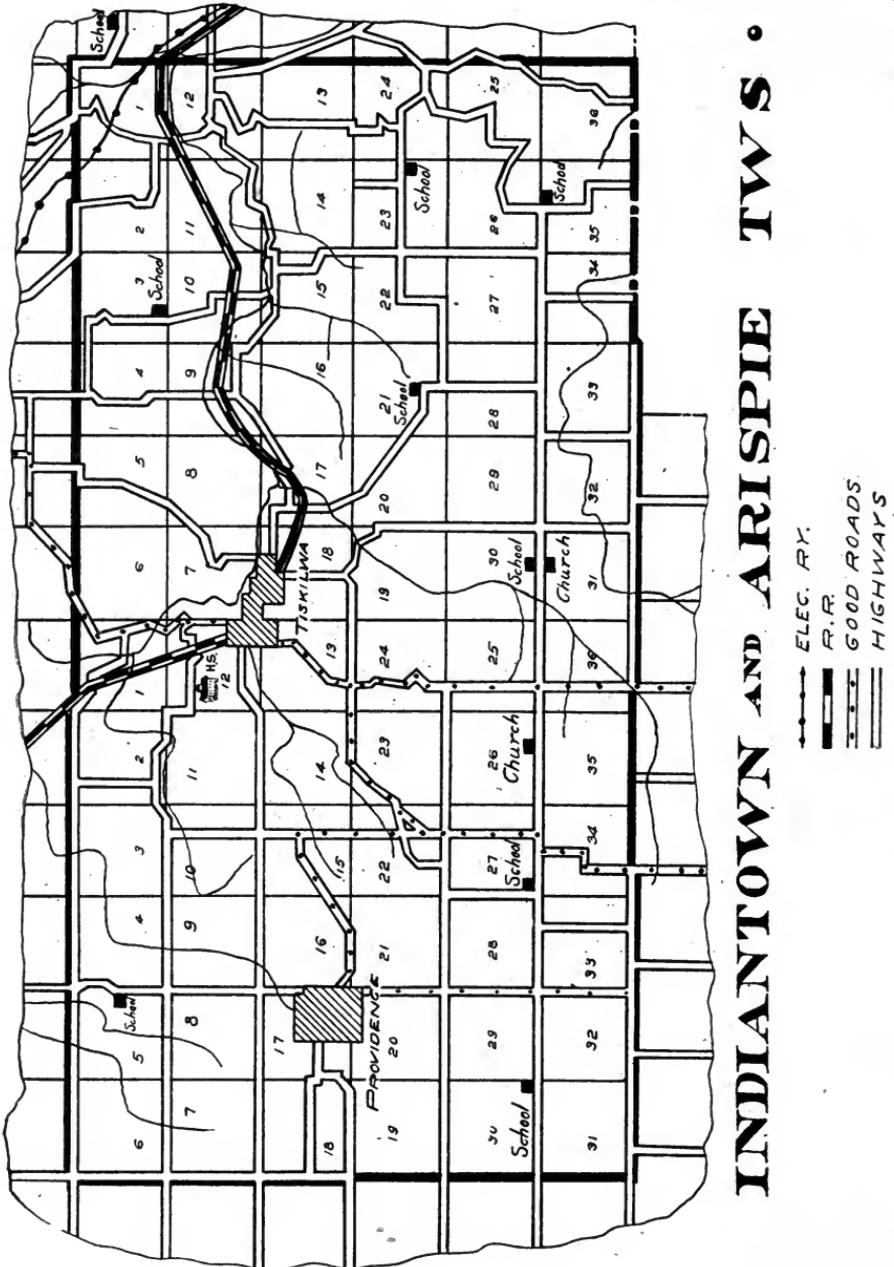
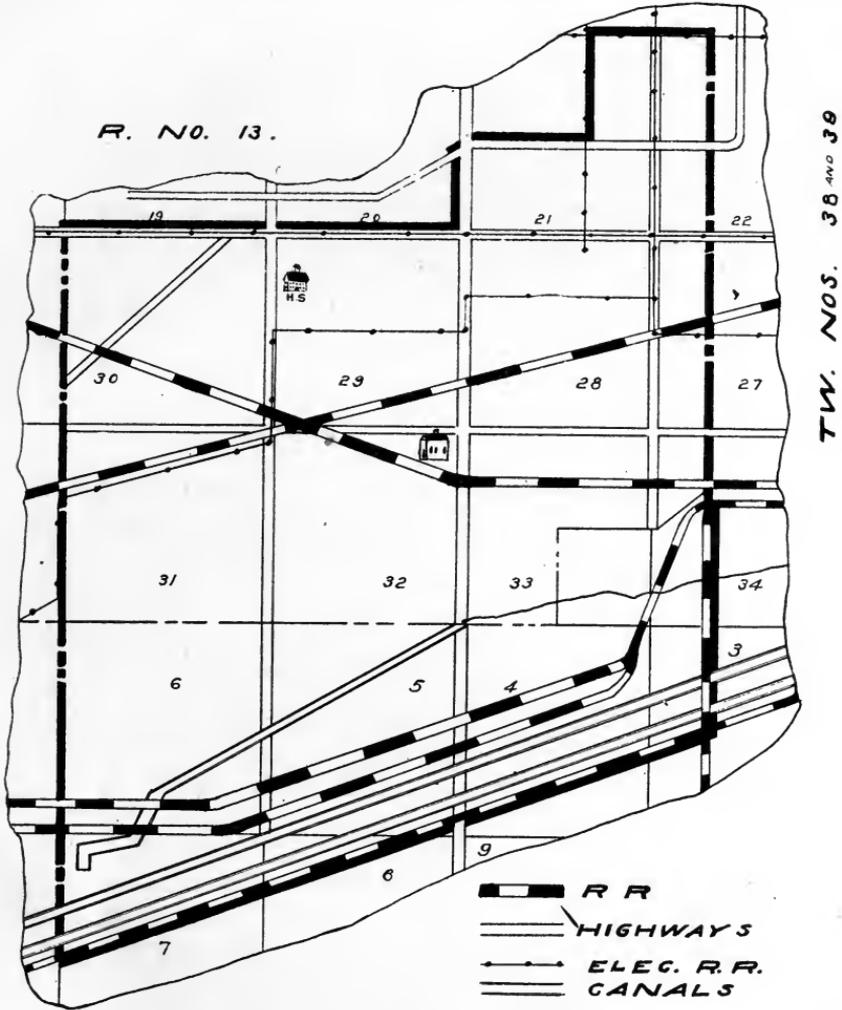


Figure 32.

district in Cook County immediately adjacent to the city of Chicago. It has excellent transportation facilities. It is one of the largest town-

ship high schools in the State. The provision of the law also allows considerable elasticity in the formation of high school districts in that township boundary lines do not restrict the size or shape of the district. In fact, by the judicious use of provisions three and four most of the terri-



## J. STERLING MORTON T.W. H. S.

Figure 33.

tory of the State could be organized into high school districts in a desirable manner.

In provision five "the remainder of a township part of which has been organized into a township high school," the Proviso Township High School located at Maywood in Cook County is an example. A part

of Proviso Township had been included in other township high school districts, e. g., a part had been included in the Oak Park and River Forest district. Under this provision of the law the remainder of the township was organized into another high school district. This district is shown in Figure 35. Note that the transportation facilities are good. This provision is a special one, and the example given is the only one. The provision could not have very wide application throughout the State.

The sixth provision is that a school district having a population of 2,000 or more may be organized into a township high school district.

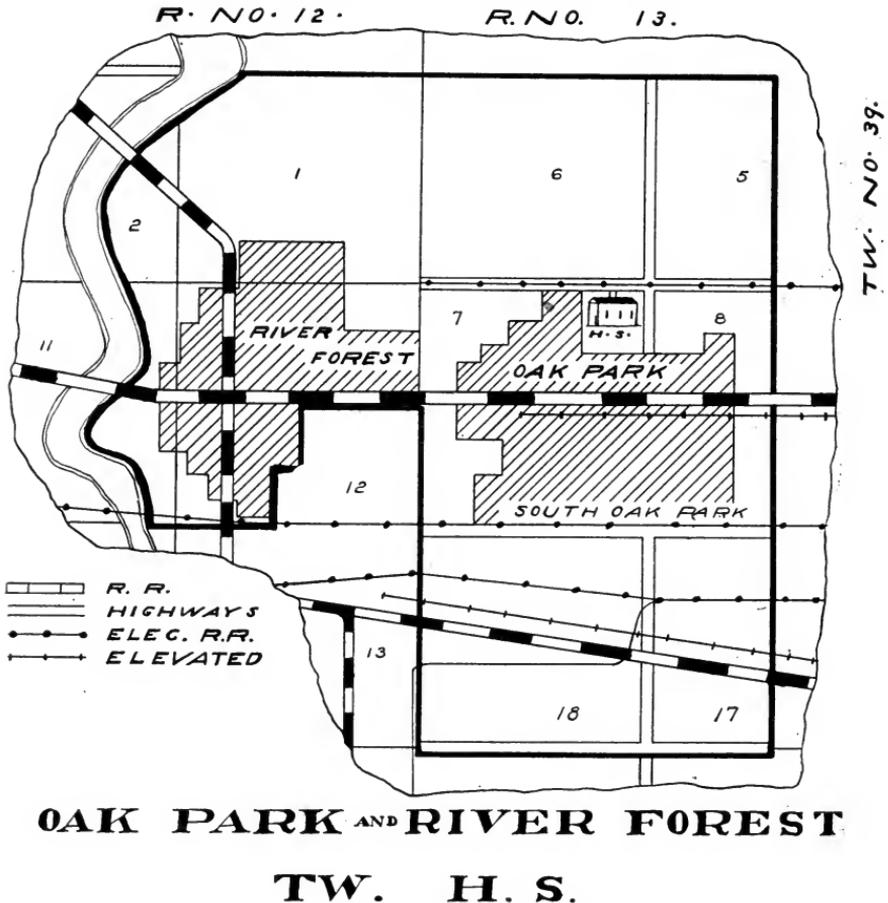


Figure 34.

The Blue Island High School is an example of this. It is in Cook County near Chicago. An outline of the district is shown in Figure 36. In this case the high school district and the elementary school district are coterminous. The point in the organization of such a district is that the district which had been maintaining a high school found itself short of funds. By superimposing a high school district upon the old school district the power of taxation for school purposes was doubled. It makes necessary, however, two boards of education in the identical territory where there had been but one. The same superintendent is

selected by the two boards to have charge of both the elementary school and the high school.

The seventh provision is that a "city and a township" may be organized into a township high school district. This is a very special provision made to fit a particular situation. The city of Centralia lies partly in Centralia Township in Marion County and partly in another county. It was desirable to include the whole of the city of Centralia in the new township high school district which was to be created in Centralia Township. Hence an amendment to the law was secured providing that a

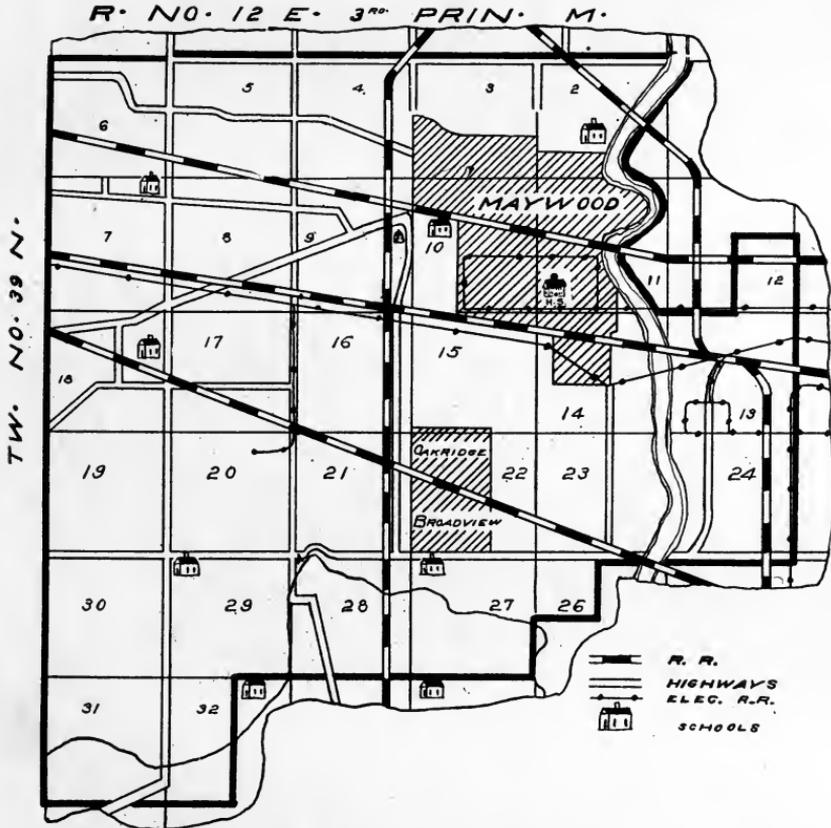


Figure 35.

city and a township may organize a township high school. This district is shown in Figure 37. Because an accurate map was not available that part of the city of Centralia which lies outside of Centralia Township is not shown in its accurate form. The remainder of the map is authentic.

Note that the lines of transportation lead naturally to the city of Centralia although the city is located on the western boundary of the district. This is a very special provision and would not often find application in other parts of the State. The fact that the school is located at

one side of the district in this district leads to the general comment that the school should always be located with reference to density of population and accessibility as regards transportation rather than with reference to the geographical center. In fact, geographical distance in itself should have very little influence in locating the building but should give way entirely to considerations of the density and accessibility of population.

Another special provision is the eighth one, namely, that a part of a township divided by a navigable stream may be organized into a township

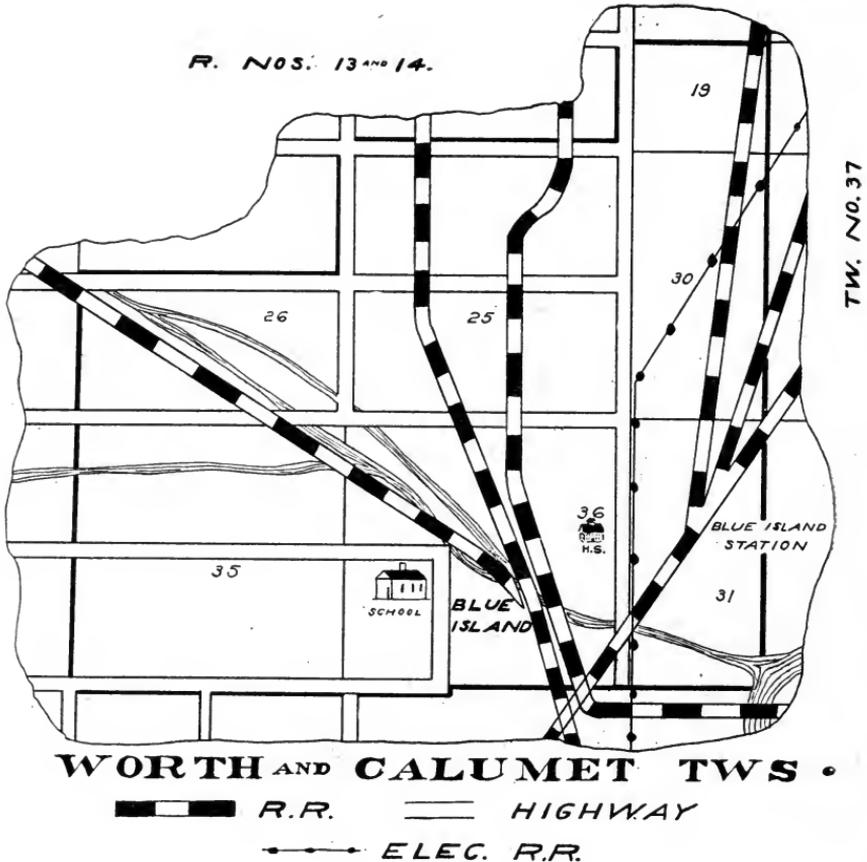


Figure 36.

high school. The only example of this is Sterling High School, located in Whiteside County. This district is represented in Figure 38. It will be noted that the district lies north of the Rock River and that although the high school is located in Sterling at the extreme south side of the district, the lines of communication lead directly to it. This provision would not have very wide application elsewhere in the State.

The eight examples already discussed illustrate all the different ways in which township high schools may be organized under the general school law.

The original Special Charter which was granted to Princeton in 1867 was never repealed, and the Princeton Township High School continues to operate under its provisions. This charter is given in full in Appendix A. An outline of the Princeton District is shown in Figure 39. By noting the various lines of transportation it is readily seen that the city of Princeton is the natural center of the township. It is located in Bureau County. As was shown in Chapter 1, the people of Princeton and those out in the townships felt themselves to be parts of the same

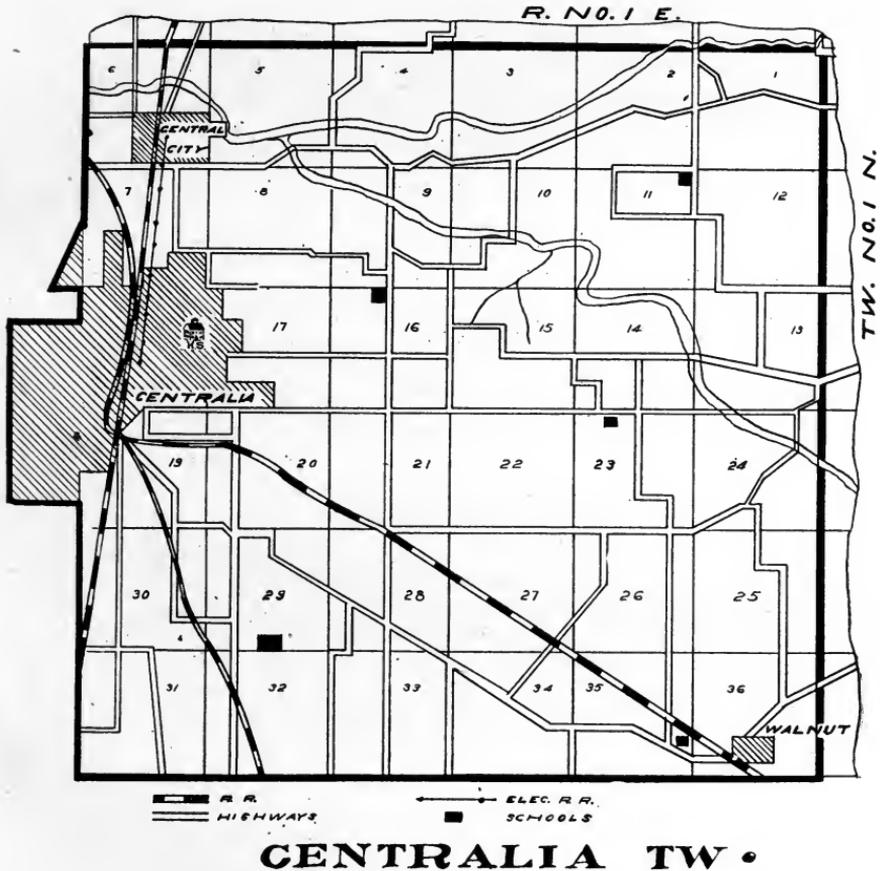


Figure 37.

community and as a result of this feeling they organized this first township high school. They furnished the example for all the succeeding evolution of township high schools in Illinois.

There were two township high schools organized under the law of 1905, viz., Waukegan and Collinsville. This law is given in full in Appendix C.

Waukegan Township High School is located in Lake County and is represented in outline in Figure 40. So far as the territorial district is concerned, it is not different from any township high school district

which is organized under the first provision of the general law discussed above. The same is true of the Collinsville Township High School district, which is located in Madison County, and is represented in Figure 41. This law so far as territory is concerned applies only to school townships and does not have an application so wide as the general law. The two high schools mentioned above are the only ones organized under this law.

Figures 31 to 41 inclusive and the attending discussion give an account of all the various kinds of township high school districts which are organized or which can be organized under the general law, the Princeton

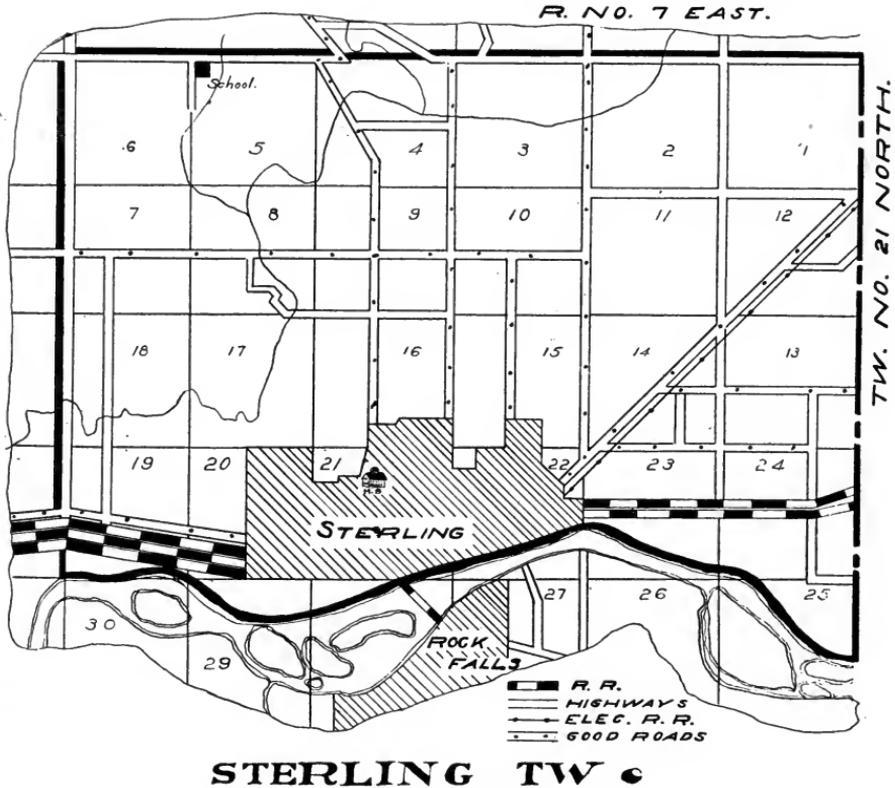


Figure 38.

Charter, and the law of 1905. No figures are given of high school districts which have been organized under the law of 1911, because it provides for districts of any size or shape which meets the needs of the community. The law of 1911 printed as Appendix D was passed by the Legislature to facilitate the organization of territory into high school districts and make them conformable to local requirements. It provides that any contiguous and compact territory, whether in the same or different townships, may be organized into a township high school district. This law more than any other township high school law has provided for local needs in the way of allowing a proper adjustment of the boundaries

of the high school district. That it has done so is attested by the fact that so large a number of high schools were organized under it soon after its passage.

This law, however, is capable of certain abuses. Under it some high school districts have reached out and taken territory which was naturally tributary to them and which did not find the high school accessible. This is manifestly an injustice. Other high schools have been organized

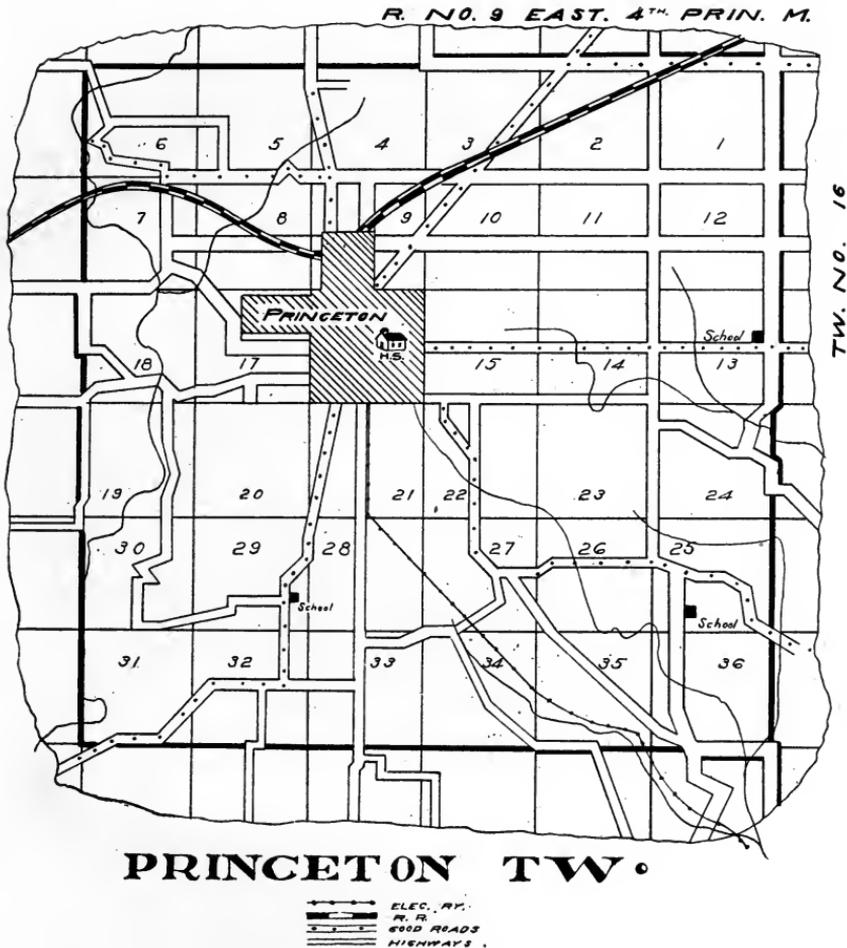
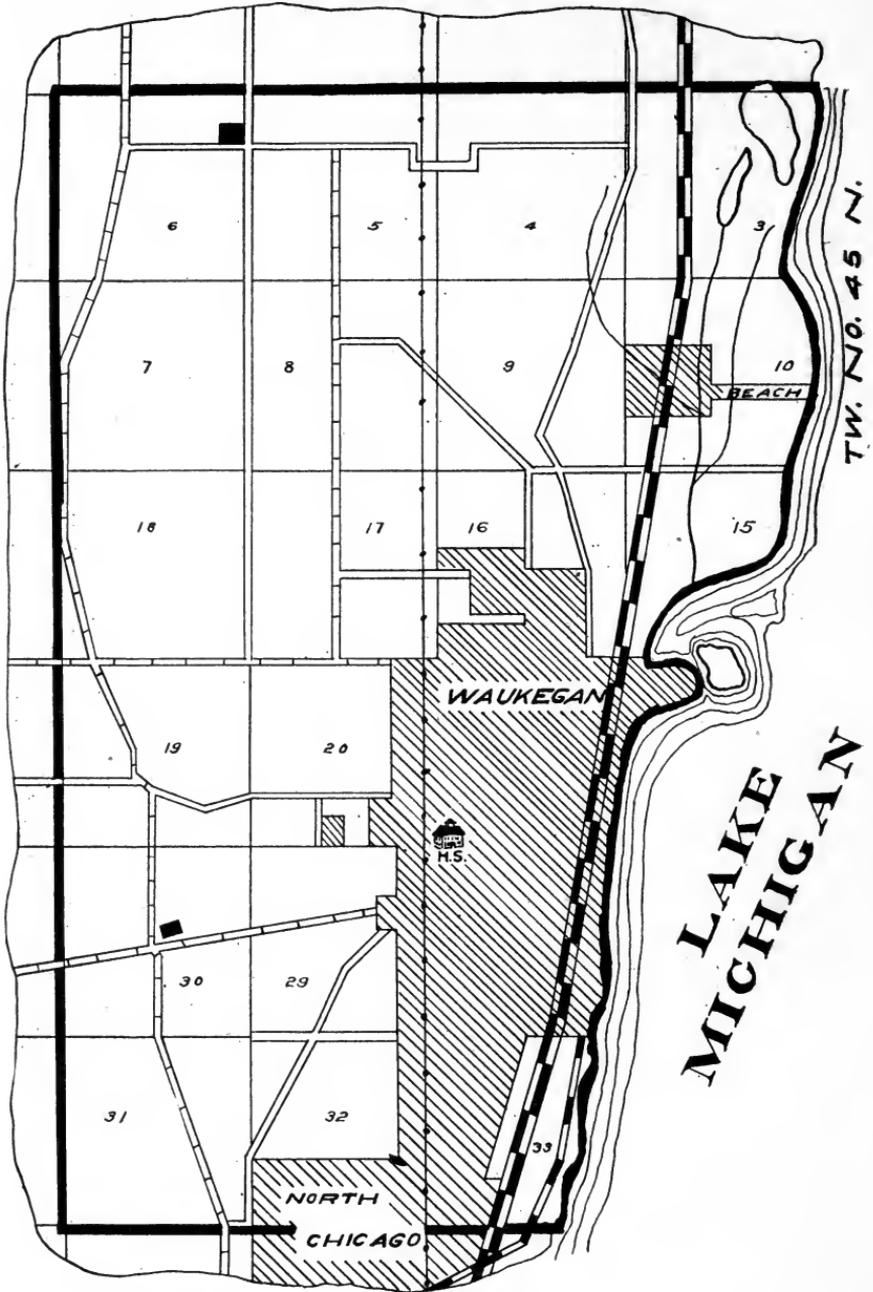


Figure 39.

not with the purpose of establishing high schools but for the purpose of preempting territory so that a progressive and enlightened community might not include it in its high school organization. Such high school districts when once organized have been allowed to lie dormant with no attempt to organize a school township and building a building. Occasionally a high school district has been organized for the purpose not of organizing a school and conducting it but of paying tuition to other

R. N. 0. 12 E. 3<sup>rd</sup> PRIN. M.



- R. R.
- PIKES
- HIGHWAYS
- SCHOOLS

# WAUKEGAN TW.

Figure 40.

districts. This latter purpose when undertaken in good faith would seem to be perfectly in order. It is the evils referred to above that should be avoided in succeeding legislation and in the educational administration of the schools of the State.

It is now time to address ourselves to the general principles referred to which should be the governing ones in determining what should be the limits of a high school district. It is certain that the political boundaries which determine the county and township lines should not be the de-

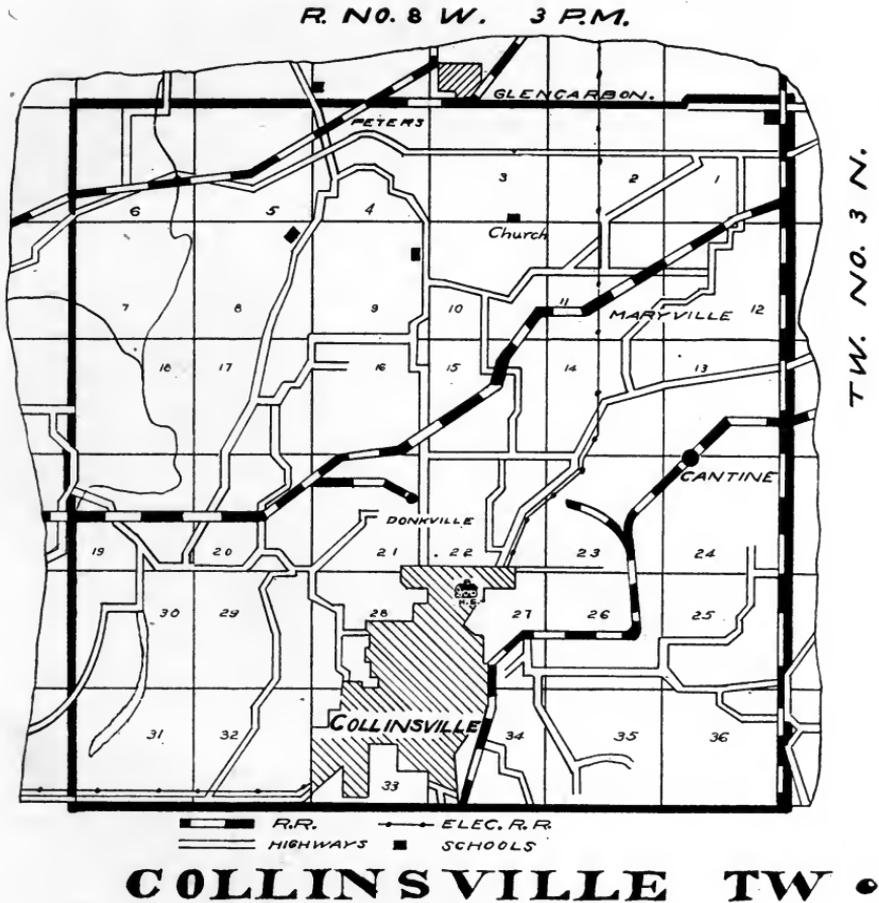


Figure 41.

termining factors. It might be objected that political administration is conducted along these lines and hence the finances of the high school district could thus be better managed. The State has had enough experience already in the conduct of districts which do not follow these boundary lines to show that it is entirely practical to disregard them. If these new township high school districts are to be organized without regard to the precedent set by the various political units, what then are the principles that we should set up?

First and foremost, we could set up the principle that a high school should be organized of sufficient size to give the best results educationally. The figures foregoing show that the schools begin to reach their maximum efficiency in regard to buildings, equipment, teaching force, breadth of course, and excellence of scholarship in the university when they have an enrollment of 201 to 300. Our first standard then in setting up a high school district would be to include that number if possible. However, if the territory is too sparsely settled or if for other social or geographical reasons it is not possible to set up a district providing a high school as large as this, a high school smaller in enrollment, say 101 to 200, can be provided and good results can be attained with the relatively narrow course of study and narrow limitations put upon teaching force, equipment, and so forth. An enrollment of 100 should be regarded as the minimum for securing effective work. It is found, however, that even in the smaller high schools good work has been done in the university by graduates of such high schools. But a study of these meager schools in detail shows them to be severely handicapped, and the organization of such schools should be avoided if it is at all possible.

In trying to aim at a high school of a certain size, say 200 to 300, the question at once arises how is it possible to determine that such a high school can be set up when there is no precedent in the community to furnish a guide? This can be determined readily from the experience of the State as a whole. It is shown in Table LXX that a district which has from 1,522 to 3,014 people under 21 typically can sustain and does sustain a high school of 201 to 300 enrollment. It has also been shown in Table LXXI that when there are 804 to 1,506 pupils enrolled in the elementary schools that the State can and does support a high school of 201 to 300 enrollment. A study of the preceding tables thus laid down will enable us to determine how large a high school may confidently be organized on the basis of the situation existing in the community as to census of minors and the enrollment in the elementary schools.

A second standard which should guide in setting up a high school district is the distribution of the population. It is certain that so far as possible a city or a village should be included in the organization and that the configuration of the district should conform as far as possible to lines of rail transportation and should take into account the number and direction of good roads. A narrow consideration of this matter of transportation should not be a determining factor. In order to make this proposition as effective as possible the State Legislature should not only authorize but require free transportation for pupils living in outlying districts.

A third and possibly one of the most important factors should be the matter of finance. If possible, a high school district should be organized so as to cover as wide a territory as possible, keeping in view the other considerations named above. The high school within the limits of accessibility and the needs of other districts should be made as large as possible so that the school will have ample financial foundation. It has been shown in the preceding part of this study that when the people have an opportunity to support an efficient high school they do so, and ample

opportunity should be granted. It is a mistake to organize a number of small high schools centering about little towns. It can serve no useful purpose and all of the schools so organized are weakened in their progress, and they are set permanently on a basis that is unsatisfactory and when once thus organized it is almost impossible to consolidate them with others.

In this connection it is important to discuss the situation in the State as a whole. The State of Illinois itself comprises a State wide school district for the support of the University of Illinois. It is not common to so regard the State but since all the taxable property of the State is assessed for the support of the University of Illinois, it is proper to regard it in this manner.

The entire State is subdivided into elementary school districts and all of the property of the State is taxable to support these separate districts. In addition to this a tax is levied upon all of the property of the State for the State Distributable Fund, and this is distributed on the basis of the school population to all of the elementary school districts of the State. It will thus be seen that there is a big gap in the State's provision for education. The whole State is taxed for the University, the whole State is taxed for the elementary schools, a large part of the State is not organized into high school territory and is not taxed for high school purposes. Now the high school system is just as much a part of the educational system of the State as either the elementary schools or the University. This gap should be closed, and all the property in the State should be taxable for high school purposes also.

All of the territory of the State should be reorganized so that high school territory should be coterminous with the boundaries of the State. Principles such as were discussed above should be the determining factors in this State wide reorganization.

There are some other factors bearing upon our problem. We will now address ourselves to that subject. In order to learn of the character of the underlying elementary school districts in the township high school districts Table LXXXVI was constructed, which shows the number of underlying districts which comprise the various township high school districts.

TABLE LXXXVI—NUMBER OF UNDERLYING ELEMENTARY SCHOOL DISTRICTS WHICH COMPRISE THE TOWNSHIP HIGH SCHOOL DISTRICT

	Number of schools.	Single teacher schools.		Schools having two to five teachers.		Schools having six to ten teachers.		Schools having over ten teachers.		Total districts.	Average.
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.		
A. 1-100.....	32	223	86.7	22	8.6	11	4.2	1	9.4	257	8
B. 101-200....	18	103	77.4	9	6.8	6	4.5	15	11.3	133	7
C. 201-300....	12	69	75	9	9.8	1	1.1	13	14.1	92	8
D. 301-500...	11	42	52.5	13	16.3	5	6.3	20	25	80	7
E. 501-Over..	3	1	10	1	10	1	10	7	70	10	3
Total.....	76	438	76.6	54	9.4	24	4.2	56	9.8	572	7.5

This information covers 76 township high schools in the State. The first vertical column shows the number and percentage of the districts which maintain single-teacher schools. The second vertical column shows the number and percentage of the districts which support schools having from 2 to 5 teachers. In the 32 township high school districts of Class A there are 22 underlying elementary school districts which support schools having from 2 to 5 teachers. There are 257 elementary school districts underlying these 32 township high schools. It is clear then that the majority of the underlying districts of Class A are rural districts. Of these 86.7 per cent support one-room schools, and 8.6 per cent support schools having from 2 to 5 teachers. In other words, the preparation of high school students going to these township high schools is distinctly that of the country school.

It will be seen in Classes B and C also that there are a large number of districts of this kind. However, the information shown in this table will be illuminated by that brought forth in following tables. Note the fact, however, that on the average the township high schools of Classes A, B, C and D have practically the same number of underlying districts, an average of  $7\frac{1}{2}$ . The township high schools of Class E have about 3 underlying districts. In other words, the high schools of Class E are based upon city elementary districts.

The next item of information which bears upon the character of elementary schools contributing to the township high schools is that which relates to teachers. This information is shown in Table LXXXVII.

TABLE LXXXVII—NUMBER OF TEACHERS EMPLOYED IN THE VARIOUS UNDERLYING DISTRICTS.

	Number of schools.		Single teacher schools.		Teachers in districts having schools with 2 to 5 teachers.		Teachers in districts having schools with 6 to 10 teachers.		Teachers in districts having schools with over 10 teachers.		Total teachers.	Average per school.	Total districts.	Average teachers per district.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.				
A. 1-100.....	32	223	55.3	76	18.9	91	22.6	13	3.2	403	12.6	257	1.5	
B. 101-200.....	18	103	21.3	19	3.9	48	9.9	314	64.9	484	26.9	133	3.6	
C. 201-300.....	12	69	12.3	30	5.4	9	1.6	452	80.7	560	47	92	6	
D. 301-500.....	11	42	4.7	42	4.7	41	4.6	769	86	894	81	80	11.2	
E. 501-Over....	3	1	.2	2	.4	8	1.7	449	97.6	460	153	10	46	
Total.....	76	438	15.6	169	6	197	7	1,997	71.3	2,801	36.9	572	4.9	

This table shows the number and percentage of teachers teaching in school districts supporting school of various sizes. For example, in Class A there are 76 teachers teaching in underlying districts supporting schools having from 2 to 5 teachers. It will be readily seen that this reveals the conditions as to the character of the elementary schools probably better than the preceding table. An inspection of the table in general shows that there are 2,801 elementary teachers teaching in schools tributary to the 76 township high schools involved in this tabulation. Here again we note the large proportion of rural teachers teaching in the

elementary schools of Class A. There is also about one-fourth of the teachers in Class B who teach either in country schools or in village schools. The number of teachers teaching in country and village schools is still a considerable factor in Class C.

The larger high schools draw their pupils from city districts. This fact is shown rather vividly in the vertical column marked "Average number of teachers per district." It will be noted that as the size of a high school increases the average number of teachers per elementary school district increases more rapidly. For instance, there is an average of  $1\frac{1}{2}$  teachers per elementary school in the districts underlying the schools of Class A. There is an average of 6 per school in the case of underlying districts of Class C, and so on.

The further information bearing upon this consideration is shown in Table LXXXVIII.

TABLE LXXXVIII—NUMBER OF PUPILS COMING FROM ELEMENTARY SCHOOLS OF EACH OF THE VARIOUS SIZES.

	Number schools reply to questionnaire.	Number schools reporting this item.	Number pupils from single teacher schools.	Per cent of pupils from single teacher schools.	Number of pupils from schools of 2 to 5 teachers.	Per cent of pupils from schools of 2 to 5 teachers.	Number of pupils from schools 6 to 10 teachers.	Per cent of pupils from schools 6 to 10 teachers.	Number of pupils from school of over 10 teachers.	Per cent of pupils from schools of over 10 teachers.	Number of pupils from schools not identified.	Per cent of pupils from schools not identified.	Total enrollment.
A. 1-100.....	25	23	507	37.2	393	28.8	406	29.8	35	2.6	22	1.6	1,363
B. 101-200.....	19	18	638	25.9	72	2.9	785	31.9	871	35.3	97	3.9	2,463
C. 201-300.....	7	7	318	17.9	82	4.6	103	6	1,272	71.4	1	.....	1,781
D. 301-500.....	13	8	306	10.7	323	11.3	1,160	40.7	978	34.3	83	2.9	2,850
E. 501-Over.....	5	*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	69	56	1,769	20.9	870	10.2	2,459	29	3,156	37.3	203	2.4	8,457

\* No accurate data.

There are 69 township high schools involved in this tabulation. There are 56 of these high schools reporting on this item. This table shows the number of pupils coming from elementary schools of the various sizes, and the general method of the tabulation is the same as in preceding tables. One of the vertical columns shows the number of pupils who are not identified. It will be seen that the information so far as it is presented is very complete. It involves an elementary population of 8,457 high school students. It will be noted that  $\frac{2}{3}$  of the pupils attending township high schools of Class A come from rural and village schools. In Class B 28 per cent of them come from country and village schools. This table shows that the schools of Class C are also measurably influenced by the country and village schools. The work of the high schools of Class C is based on fairly well organized elementary school training.

Looking at the totals, it will be noted that 31 per cent of all of the pupils attending township high schools come from country and village schools; 29 per cent come from schools having from 6 to 10 teachers, that is, they are fairly well graded and organized from the point of view of elementary education.

There is no adequate body of information available for the study of the distribution of population such as would give guidance in this matter of the organization of township high schools. However, it is possible to get some information from the statistics furnished by the United States Census Bureau. Table LXXXIX was constructed on the basis of the U. S. Census Report for 1910. It shows the aggregate population of villages of Illinois of 500 and under at the time the three decennial censuses were made, namely, 1890, 1900 and 1910.

TABLE LXIX—POPULATION OF ILLINOIS TOWNSHIPS AND VILLAGES.

## POPULATION OF ILLINOIS VILLAGES.

	A 1-100	B 101-200	C 201-300	D 301-500	E 501-Over.
1910.....	162,322	194,087	89,579	38,070	39,104
1900.....	133,605	157,856	68,424	22,015	32,436
1890.....	75,529	106,816	45,745	14,525	17,221

## POPULATION OF ILLINOIS TOWNSHIPS, EXCLUDING VILLAGES.

	A 1-500	B 501-1,000	C 1,001-1,500	D 1,501-2,000	E 2,001-2,500	F 2,501-3,000	G 3,001-4,000	H 4,001-5,000
1910.....	65,191	705,341	387,119	115,372	47,290	29,826	26,814	12,991
1900.....	78,244	807,721	417,191	121,400	40,508	24,429	18,803	12,431
1890.....	79,028	795,694	406,261	112,061	42,378	24,586	9,931	6,312

The villages in the compilation of this table were grouped according to population as follows: 1 to 100, 101 to 200, and so forth, as indicated in the table. The total population in each group is shown for each of the decennial years indicated. An inspection of this table shows that in every group there was an increase in population during the twenty years covered by these figures. It is very clear from these figures that township high school districts which are organized with one or more villages will easily secure a reliable school enrollment. If they begin with a fair enrollment, they will surely increase in size with the increase in population.

In order to throw further light upon this question the population of the townships of Illinois, excluding villages, was calculated. These townships are calculated in groups of 501 to 1,000, 1,001 to 1,500, etc., up to 50,000 and over. An examination of the figures shows that up to 1,500 there is a decrease in rural population in the townships excluding villages. In the townships having a population above 2,000 and on up to 5,000 there is an increase. In a good many cases it is known that some of these more populous townships are suburban townships, and possibly all of them are. In view of the known tendency for villages and cities to increase in population and the tendency for rural districts to remain stationary or to decrease rather gradually, the present distribution of population in Illinois can confidently be decided upon as a basis for the permanent reorganization of the State into high school districts covering the entire territory of the State.

By way of summary, in this chapter we have noted that the present township high school law of the State provides for the organization of township high school districts of many sizes and shapes. The experience of the State in the organization of high schools furnishes adequate assurance for organizing high school districts on the basis of the social and geographical situation, disregarding political boundaries. In other words, the unit should be the social unit and not an artificial one determined by political boundary lines. Certain principles were set down as determining ones in the organization of a high school district, namely:

*First*—There should be a township organization of sufficient size to give the best results educationally.

*Second*—The distribution of population and transportation should be an important consideration.

*Third*—Adequate financial provision should be made for the support of the school.

Attention was called to the fact that the elementary schools of the State are supported by taxation based upon the entire assessed valuation of the State. The State University is similarly supported. There is a wide gap here as to high schools, and the entire State should be reorganized so that the entire assessed valuation of the State should contribute to the support of high schools. Tabulations of the districts, teachers, and pupils coming from the elementary districts show that the smallest township high schools (those under 100) are populated by pupils coming from country and village schools. A large proportion of those going to township high schools of 100 to 200 enrollment also come from country and village schools. They are a considerable factor in township high schools of from 200 to 300, although in township high schools of this size the dominating proportion of the student body comes from well graded elementary schools. In township high schools larger than 300 the pupils pretty generally have a well graded elementary school education.

## CHAPTER XI.

### LAUNCHING A TOWNSHIP HIGH SCHOOL.

The organization of the new township high school involves a new social situation. Under the head of a school township or parts of a school township or other territorial subdivisions a combination must be united into a new unit for the organization of a new institution. This, of course, means readjustments of various kinds. People are associated in a new way. Social inertia must be overcome. One result is that previous to and immediately following the organization of a township high school it is natural to expect some excitement, some friction, some misunderstandings.

This is reflected in the answers which were received as a result of a questionnaire which was sent out, reference to which was made in Chapter I of this monograph. In Question 8 of this questionnaire information was sought as to the high school facilities preceding the organization of the township high school. This information was collected and is tabulated in Table XC.

TABLE XC—PREVIOUS HIGH SCHOOL FACILITIES.

	Number schools.	Blank.	District high school.	Three years high school.	Two years high school.	None.
A. 1-100.....	25	.....	13	5	5	2
B. 101-200.....	19	.....	13	2	.....	3
C. 201-300.....	7	.....	7	.....	.....	.....
D. 301-500.....	13	.....	8	1	1	3
E. 501-Over.....	5	1	4	.....	.....	.....
Total.....	69	1	45	8	6	8

In this table we have reports from 69 township high schools, only one of which failed to furnish this information. It will be noted here that 8 of these township high school districts had no high school facilities previous to the organization of the township high school; 45 of them had district high schools mentioned as providing some facilities. The character of the replies on this point shows that these district high schools were in most cases very inferior. Remarks were made by them as follows: "Poorly equipped," "Struggling to do creditable work," "Previous high school had no standing," "Teacher also teaching in 7th and 8th grades." To be sure in some of these district high schools there were creditable high school facilities with proper accrediting relations, and in such cases as these the motive for the organization of a township high school was that the high school be maintained on an adequate

basis, and with ample financial support. In fact, the most important motive in the organization of township high schools was the financial one. We have then an interesting situation where there are communities all over the State of Illinois who have very poor high school facilities and whose financial resources are very limited. These same communities by using the township high school device have been able to supply themselves with enough financial resources to conduct successful high schools.

As was mentioned in the first paragraph above, the installation of a township high school was expected to result in agitation, and did so result. Information on this point was sought in Question 1, first, as to the length of time the agitation lasted between the first proposition of the township high school and its final establishment. This information is shown in Table XCI.

TABLE XCI—LENGTH OF AGITATION INCIDENT TO FORMING TOWNSHIP HIGH SCHOOLS.

	Number schools.	Blank.	Less than six months.	Six months to one year and less than two years.	Two to five years.	Over five years.
A. 1-100.....	25	1	16	5	3	.....
B. 101-200.....	19	4	5	3	5	2
C. 201-300.....	7	1	1	3	1	1
D. 301-500.....	13	5	3	2	3	.....
E. 501-Over.....	5	2	2	.....	1	.....
Total.....	69	13	27	13	13	3

Of the 69 township high schools furnishing information on this questionnaire 13 do not reply on this point. A summation of the table shows that the length of time usually required for this purpose is from six months to a year. Quite a number of schools reported less than six months, and quite a number more, from six months to a year. On the whole there are 40 schools which report that the period between the first proposal of the township high school and its final establishment was not longer than a year. It is to be noted, however, that in some instances this agitation stretched over a period of from three to five years, three stating that it was longer than five years. When a community will agitate a question like this for as long a period as five years, it shows that there are certain interests in the community that are very persistent in attempting to secure the best educational possibilities available.

In this matter of agitation information was sought as to the opposition to the establishment of the township high school. This information is of such a character that it does not lend itself to tabulation readily, yet by going into detail it is possible to display it with some system. The result of this attempt is shown in Table XCII.

TABLE XCII—OPPOSITION TO ORGANIZATION OF TOWNSHIP HIGH SCHOOLS.

	Schools.	No opposition.	Little.	Considerable	Other replies.
A. 1-100.....	25	2	9	5	Blank, 1; opposed by wealthy land owners, 1; farmers living at a distance from the building, 1; opposed by larger land owners, 1; low estimate of education especially secondary, 1; ignorance of value of secondary education, 1; and high taxes, 1; opposed in county and carried in town, 1; no opposition until first taxes were collected then much opposition until school gained place in the heads of the people, 1; bitter at first, carried by one vote; opposition becoming friends of the school, opposition very much reduced each year, 1.
B. 101-200.....	19	1	4	.....	People at a distance kick, 1; chiefly from rural districts, 1; opposition from land owners, 2; strong from country, 1; from farmers, 5; from farmers and local jealousy, 1; not familiar with the benefits, 1; pretty strong at first when the people understood what was wanted, there was little opposition, 1; the opposition was due to distribution of population being mostly at Herrin, west side of the district, east side opposed, 1.
C. 201-300.....	7	1	1	2	Farmers, 2; opposition to a new thing and afraid of high taxes, 1.
D. 301-500.....	13	2	4	1	Parochial schools, retired capitalists, large real estate interests, 1; fear of cost, 1; opposition of rival city, 1; blanks, 1; bitter on account of locat on of building, 1; lack of information as to what the institution will do for the community, 1.
E. 501 Over.....	5	1	2	.....	Larger number would not benefit from high school, 1; 611 for, 147 against, 1.
Total.....	69	7	20	8	34

It is to be noted particularly that of the 69 schools 27 of them report "Little or no opposition." Six of the 13 schools in Class D say that there was little or no opposition. There are 8 of the 69 township high schools which say that there was considerable opposition.

At the right of the table those schools that cannot be classed under the first three heads are reported in some detail. It will be seen that there are 34 of such schools. Most of the opposition reported and the bitterest is in Class A and Class B. Various kinds of opposition are reported, but it readily falls into two or three classes. Some opposed the organization of the township high school on account of increased taxes. Opposition often came from wealthy land owners and farmers. A still further cause of opposition was the failure to appreciate the advantages of secondary education. Still another is the disagreement between various localities because of the location of the building. Considerable opposition develops because of distance from the building. In some cases it is noted that when people became better acquainted with the school advantages the opposition ceased.

Corollary to the opposition which exists at the time of the organization of the township high school it is desirable to note the present attitude of the patrons of these institutions. In order to have some information on this point Question 2 was included in the questionnaire. Information on this question is shown in Table XCIII.

TABLE XCIII—PRESENT OPPOSITION TO TOWNSHIP HIGH SCHOOL

	Is there any opposition to it as an institution at present?				Would people be likely to vote it down now?			
	Yes.	No.	Blank.	Other replies.	Yes.	No.	Blank.	Other replies.
A. 1-100.....	25	6	1	1 Little,7.....	2	18	2	Possible, 1; hardly, 1; some few, 1. Vote would be close, 1.
B. 101-200.....	19	7	8	..... Very little, 4.....		18		
C. 201-300.....	7	.....	2	1 Some, 1; little, 2; very much in country, 1.....		6	1	Farmers, 1.
D. 301-500.....	13	3	8	1 Little, 1.....		12	.....	
E. 501-Over.....	.....	.....	5	.....		5	.....	
Total.....	69	16	34	3 As above, 16.	2	59	3	As above, 5.

It will be noted that there are two parts to this table, one under the general head, "Is there any opposition to it as an institution at present?" the other, "Would people be likely to vote it down now?"

Under the first head the information is set up under two columns "Yes" and "No." Only three schools failed to report on this question. Under the head of "Other replies" is listed that information which could not easily be included in the previous columns.

It will be noted that 34 of the 69 high schools say that there is no opposition at present. Sixteen of them declare that there is opposition without specifying the nature of it. The remainder of the schools give a qualified reply, such as, "Little," "Very little," "Some," "Very much in the country." There are 16 of this kind of responses.

On the whole it will be seen that the opposition after the organization of the school dwindled away to comparative insignificance.

The latter half of the table is constructed exactly as the former half. A closer inspection of this part of the table shows that the judgment of the principals of 85.5 per cent of the schools, or 59 in number, is that the people would not vote the school down if it were submitted to a vote. Only two declare categorically that the people would vote it down. Only three of the list fail to furnish information.

A proper summation of these figures makes it very clear that after a township high school is once organized it has the favor of the people and they could not therefore be induced to dispense with it.

In considering the progress the township high schools have made in estimating their present status, it is important to note their age. This information was secured in Question 1, under the head "Date of Establishment." This information is displayed in Table XCIV.

TABLE XCIV—AGE OF TOWNSHIP HIGH SCHOOLS.

	Number schools.	Blank.	Established 1 to 5 years.	Established 6 to 10 years.	Established 11 to 15 years.	Established 16 to 20 years.	Established 21 to 25 years.	Over 25 years.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A. 1-100 .....	25	1	21	3	.....	.....	.....	.....	3	2-3	1	4	1½
B. 101-200 .....	19	.....	9	8	2	.....	.....	.....	6	6	3	8	2½
C. 201-300 .....	7	.....	2	2	1	2	.....	.....	9	8	2	16	8
D. 301-500 .....	13	.....	2	2	2	1	6	.....	23	22	14	27	6½
E. 501-Over .....	5	.....	.....	1	.....	3	1	.....	18	17	.....	.....	.....
Total.....	69	1	34	14	5	7	1	7	9.5	5-6	2	15	7½

One of the 69 schools failed to report on this item. The rest of the information is reported under the heads "Established 1 to 5 years," "6 to 10 years." The median, the first quartile and the third quartile are shown in the latter part of the table. The median age of all the township high schools in the State is 5½ years, the average is 9½ years. It is to be noted that in Class A the median age is 2½ years, in Class B, 6 years. The class having the longest median age is Class D, in which this median is 22 years.

A consideration of these figures shows that the township high school as an institution in Illinois is relatively young, and considering this fact in connection with the previous researches made in this monograph, the remarkable development of this institution is shown. One of the reasons why the schools of Class A have had such meager equipment, teaching force, plant, etc., is the fact that they are so young. In a word, they cannot be said to have established themselves until they have developed into Class B or Class C. It should be said, however, that there are 7 high schools in this list which are over 25 years of age.

As was stated in Chapter 2, the item which usually causes the most controversy and which makes or mars the institution often is the matter of the first bond issue. In Table XCV is given the information on this point.

The schools here are distributed according to their size at the beginning. It will be noted that some of the high schools districts undertake to start their schools with a rather insignificant bond issue. Three of them began with an average bond issue of over \$100,000. The median, however, in Class C is \$55,000. When we take into consideration the fact that this table shows these schools distributed according to their size at the time of the first issue of bonds, the meagerness of the bond issue becomes very evident. For example, the fact that it is the habitual practice of schools of 200 to 300 in size to have a bond issue of only \$55,000 shows that there was not very good planning done at that time.

These initial bond issues are restricted in Table XCVI, according to the size of the schools at present.

For example, the median initial bond issue of the schools of Class D is \$30,000, for Class C, \$50,000. This table merely reinforces in a more striking way the fact brought out in the preceding one, namely, that in the first bond issue very little foresight was used. The bond issues were

TABLE XCV—INITIAL BOND ISSUES DISTRIBUTED ACCORDING TO THE SIZE OF THE TOWNSHIP HIGH SCHOOLS AT THE BEGINNING.

	Number schools.	Number reporting.	Number blanks.	Under \$20,000	\$20,000-\$29,999	\$30,000-\$39,999	\$40,000-\$49,999	\$50,000-\$59,999	\$60,000-\$69,999	\$70,000-\$79,999	\$80,000-\$89,999	\$90,000-\$99,999	100,000-Over.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.
A. 1-100.....	23	.....	.....	7	9	3	2	1	.....	1	.....	.....	.....	\$26,196	\$20,000	\$18,000	\$35,000	\$ 8,500
B. 101-200.....	10	.....	.....	1	1	1	5	1	.....	1	.....	.....	.....	39,400	40,000	20,000-	45,000-	11,250
C. 201-300.....	6	.....	.....	.....	.....	1	1	1	2	.....	.....	.....	.....	58,333	50,000-	30,000	50,000	.....
D. 301-500.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	60,000	.....	.....	.....
E. 501-Over.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	41	.....	.....	8	10	5	8	3	2	2	.....	.....	3	\$42,841	\$30,000	\$20,000	\$50,000	\$15,000

TABLE XCVI—INITIAL BOND ISSUES DISTRIBUTED ACCORDING TO THE SIZE OF THE TOWNSHIP HIGH SCHOOLS AT PRESENT.

	Number schools.	Number reporting.	Under \$20,000.	\$20,000-\$29,999	\$30,000-\$39,999	\$40,000-\$49,999	\$50,000-\$59,999	\$60,000-\$69,999	\$70,000-\$79,999	\$80,000-\$89,999	\$90,000-\$99,999	\$100,000-Over.	Total.	Average.	Median.	First Quartile.	Third Quartile.	Quartile Deviation.	
A. 1-100.....	26	.....	2	4	2	1	.....	.....	.....	.....	.....	.....	9	\$25,555	\$20,000	\$19,000	\$35,000	\$ 8,000	
B. 101-200.....	18	.....	5	3	1	3	1	.....	.....	.....	.....	.....	14	23,464	20,000	15,000	47,000	11,000	
C. 201-300.....	7	.....	2	2	1	1	1	2	.....	1	.....	.....	7	48,071	50,000	22,500	65,000	21,250	
D. 301-500.....	13	.....	1	2	3	2	1	.....	.....	.....	.....	.....	11	57,273	30,000	21,000	50,000	14,500	
E. 501-Over.....	5	.....	.....	.....	.....	2	.....	1	.....	.....	.....	.....	5	111,000	60,000	.....	.....	.....	
Total.....	69	.....	8	11	6	9	3	3	1	1	.....	4	46	\$47,022	\$30,000-	\$20,000	\$50,000	\$8,750	
															35,000				

in most cases too small. The people believed that they were issuing sufficient bonds and building for a given territory in the future, whereas their action was merely a temporary makeshift. A reference to Chapter 3 where the present capital investment of these high schools is shown will make clear the fact that practically all of these schools have added to their capital investment very materially since their first bond issue. This fact brings out two principles very clearly. One is that the people after they have once organized a township high school learn to hold it in high regard and are thoroughly willing to provide the capital necessary for its permanent housing and equipment. The other is that the State needs to adopt some policy and formulate a body of information which will guide communities when they initiate a great undertaking like this. Information is available to show how large a building a community should build when it has a population of a certain size and an elementary enrollment of a certain size. Furthermore, no plant should be constructed with a building plan so inelastic that proper additions cannot be made. Practically all high school buildings should be constructed with the definite notion that the building is incomplete. Provision should be made for later additions which will be in harmony with previous construction and which will not violate the unity of previous construction. Furthermore, the interiors of high school buildings should be so constructed as to be remodeled easily. Many considerations point to the fact that the interiors of high school buildings should be of a very elastic nature. Not only does the increase in high school population indicate this but the change in courses of study, and the rapid developments in educational policy make necessary the radical changes in interior construction. It is impossible to foresee all of this; the consequence is that the best manner of providing for it is to construct buildings having a modifiable interior.

In this matter of growth it is interesting to note the situation in the township high schools. Information was collected on this point in Questions 6 and 9, and was tabulated in Table XCVII.

TABLE XCVII—GROWTH OF TOWNSHIP HIGH SCHOOLS.

	Number schools.	First year.			Fifth year.				Present.			
		Number reporting.	Average.	Median.	Number schools reporting.	Average.	Median.	Per cent of increase over first year.	Number schools reporting.	Average.	Median.	Per cent of increase over first year.
A. 1-100.....	25	24	50	40-41	11	55	51	10	25	59	54	18
B. 101-200.....	19	19	86	84	15	121	120	40.7	19	137	139	59.3
C. 201-300.....	7	5	146	181	5	195	233	33.6	7	254	243	74
D. 301-500.....	13	10	157	183-186	9	212	213	35	13	362	344	130.5
E. 501-Over.....	5	4	293	.....	3	592	535	102	5	103	851	245.7
Total.....	69	62	102	80	43	164	124	60.8	69	226	139	121.5

This table shows the enrollment during the first year of the history of the institution, the fifth year, and the present year. There are 62 schools which reported on this item. The average and the median are cal-

culated for each of the periods of time specified. It will be noted that on the whole the township high schools grew over 60 per cent during the first five years, and 121.5 per cent up to the present time. These percentages are based on the average in each case.

This is a very marked evidence of the approval of the patrons of these schools, and it is also an evidence of the firmness of their foundation.

Information was sought regarding the situation so far as enrollment is concerned during the fifth year, because the first five years is likely to tell the story as to a new institution. In about that length of time it will have established itself or will have failed.

It will be seen again that in Classes B, C and D the growth is between 33 per cent and 40 per cent. In Class E the growth is 102 per cent.

The last column shows the percentage of growth up to the present. The larger schools seem to have grown more rapidly. That means, of course, the high schools were relatively nearer of a size at the beginning but certain ones of them had very rapid growth.

By way of summary, in the inauguration of a township high school we note that the reasons for the establishment of a township high school in a community are meager high school facilities and a lack of financial resources. The agitation for a township high school from the time of its proposal until it is finally voted is usually from six months to a year. In a large majority of cases it is less than a year, although there are some cases extending over a considerable period of time. The opposition to the inauguration of a township high school is of various kinds. A few general categories, however, are the position of large land holders, failure to understand the value of secondary education, opposition between rival cities, and the fear of taxes. In the township high schools already organized these have been overcome.

When a township high school is once organized it is clear that it rapidly wins the favor of the people and the opposition becomes of a relatively negligible quantity. This is reinforced also by the fact that the township high school grows in enrollment very rapidly. The people see its value. They patronize it and they support it.

The fact was very clearly brought out that the township high school is a relatively youthful institution. The median age for the State as a whole is  $5\frac{1}{2}$  years. The larger township high schools are relatively older than the smaller ones, as would be expected.

It was shown that the initial bond issue was too small in size usually, and that people failed to see the future requirements of the school. Mention has been made of the rapid growth in enrollment of the township high school.

## CHAPTER XII.

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### CONCLUSION.

It is the purpose of the present chapter to gather together all of the salient facts which have appeared in the preceding discussion and the conclusions which have been drawn from them into a single discussion covering the entire field of secondary education in the State of Illinois. To that end it will be necessary to review the various chapters one by one and then integrate the discussion into a single whole.

We find in the Second Chapter that the organization of the first township high school at Princeton provides very significant material in view of the development of township high schools since that time. It was definitely the purpose of the people of Princeton and vicinity to organize a community high school, recognizing that the school situation was a single one and that all of the people living in the immediate environs of the city of Princeton naturally belonged together in the organization of such a school.

The discussions of the later chapters have shown that this is the greatest need in the State of Illinois, namely, the organization of the territory of the State into high school districts whose boundaries shall be determined by social considerations united with certain determining factors dependent upon the geographical configuration of the neighborhood and its facilities for transportation.

Another very significant feature in the organization of Princeton Township High School was the fact that it was divided not on the basis of an 8/4 organization, such as that upon which most of the high schools of the State are organized. It was divided on the basis of elementary school and advanced work. The first examination of Principal Boltwood was for the purpose of determining who should be admitted to the township high school and who retained in the organization or called advanced students. The fact is in the history of the school that it has throughout its career retained the eighth grade in the high school organization as a part of its legitimate work. The strong movement now noted in educational circles toward the organization of junior high schools makes this significant, and the organization of township high school districts comprising the entire territory of the State would provide an opportunity for the organization of junior high schools on a very satisfactory basis.

The special charter which was granted to Princeton in 1867 seemed to fit the needs of such a community so well that most of its provisions were included in the general township high school law in 1872. Since that time many township high schools have been organized throughout the State on the basis of this law as exhibited in the main body of the discussion heretofore presented. This general high school law provides

that the high school shall have a relatively large amount of territory supporting it. Its first advantage then is that of providing a wide basis for taxation. This added facility in taxation insures the maintenance of the high school on an adequate financial basis. A second advantage of the township high school is, as noted above in connection with the discussion concerning Princeton, that it covers the territory and community naturally tributary to the high school. The high school thus is the center of a natural social unit, and this social unit should be the real basis on which high schools, and all schools for that matter, should be organized. A third advantage is that it gives a proper volume of population for the organization of the high school itself. It was found in connection with studies in later chapters that there were certain advantages accruing to those high schools which had enrollments of a certain minimum size. This topic will come up for further discussion in later portions of this chapter. Another advantage of the type of organization discussed in the Second Chapter is that it centralizes the legal control of the high school in a small board. In the general law this board is composed of five members. A fifth advantage is that this board together with the executive officers which it employs is able to devote its exclusive attention to the development of secondary education, and it is not distracted by giving a portion of its time to elementary problems. A very marked disadvantage of this type of organization remains to be noted. By it the school system is broken into two independent parts. There is nothing in the figures heretofore exhibited to indicate that this division of control decreases efficiency. This is probably due to the fact that the high schools in cities having a unified control are as separate from the elementary schools as the township high schools. However this separation ought not to be the case in either group of schools. The articulation of elementary and secondary schools is one of the problems in education at the present time. The unity of courses of study extending through the elementary schools and the high school; provisions for accelerating the progress of individual pupils through the schools; economical management of buildings, equipment and supplies; efficient distribution of the work of teachers; all these are items which ought to be handled with greater efficiency in a single system than in a divided one. The fact is they are not well handled in either. The junior high school movement has great promise of solving some of these problems and of cementing together the elementary and secondary schools.

However there are two compelling reasons for continuing the present process of increasing the number of township high schools. First, this process should be continued until the State provides financial resources for all high schools equal to the provision now made for township. Second, very definite progress is made by the organization of township high school districts of large area. Each district may include a number of cities, villages and rural communities or it may include a central town and the surrounding country or it may be entirely rural. In any case after it is organized and after the passage of time it becomes solidified into a community which becomes accustomed to working together for educational interests. At some future time this community by law can be joined together into a single system under a unified control.

If this unification or establishment of large districts were undertaken at the present time in the case of the elementary schools as well as the high schools it would result in a larger number of relatively small units. Every small neighborhood would feel that it required an entire school system. In the township school type of organization a larger unit is more likely to be created. Meantime no serious results will come as none have so far come from the lack of articulation growing out of the divided control since educators have not yet solved the problem of articulation between the elementary schools and the high schools.

With these conclusions based upon the organization of the school itself after an examination of its legal constitution, we must next pass to a study of the actual accomplishments of the township high school as this is exemplified in the practice of the schools themselves. This purpose is accomplished in two ways. First, by the preparation of a table which epitomizes the statistics shown in the various chapters. Second, by an examination of the conclusions reached in each chapter.

According to the first of these plans, Table XCVIII was compiled, and is a recapitulation of the statistics worked out in the body of this investigation.

The first vertical column in this table shows the chapters from which the material is drawn. The second vertical column shows the number of the table in which the statistics are exhibited. The third vertical column displays the items on which the statistics are furnished. The fourth vertical column shows the unit in terms of which the statistics are figured. The vertical columns which follow are the usual classifications of the schools into City High School and Township High School, arranged according to their size, in the manner heretofore followed. In the column marked "Unit" it will be noticed that the unit is a Class or \$, or a Pupil, or whatever else may be the factor of school organization discussed. These units are the medians of the tables from which they are drawn in most cases. They are not medians in the case of percentages, as that would be manifestly impossible when the percentages are based upon the total number of schools represented in each class and group.

With this preliminary explanation it would seem that the table could be easily read. For example, in reading the first vertical column on "Sites and Buildings" it will be seen readily that City High Schools of Class A have a median investment of \$10,000; Township High Schools of Class A, \$18,500; City High Schools of Class B, \$30,000; Township High Schools of Class B, \$45,000, and so forth. It is very easy by this method to discover the relation that the various groups of schools bear to each other on the basis of the item under consideration, and if comparison is wanted on any topic it may be found at the appropriate point in the table, and the table may be read horizontally, and this comparative situation stands out very definitely.

The table is capable of an entirely different use which if anything is more valuable. By reading the vertical columns a complete characterization may be had of any group of high schools shown in the table. School authorities having in their charge a school of a certain size,

TABLE XXVIII—RECAPITULATION

Chapter.	Table.	Item.	Unit.	A 1-100		B 101-200		C 201-300		D 301-500		E 501-Over.	
				City H. S.	Twp. H. S.	City H. S.	Twp. H. S.						
III—The Plant	II	Sites and Buildings.....	10,000	18,500	30,000	45,000	60,000	75,000	100,000	132,134	227,795	525,000	
	IV	Equipment.....	500	1,500	1,550	3,375	3,740	5,000	9,000	9,000	21,000	13,514	
	V	Total Capital Investment.....	500	12,000	2,500	47,875	54,000	79,000	115,000	170,000	245,250	559,000	
	VII	Maintenance of Plant.....	75	197	272	510	500	664	800	1,755	1,709	2,430	
	VIII	Operation of Plant.....	188	347	600	1,000	1,223	1,557	2,390	3,227	4,528	15,528	
	XI	Does School possess a Building.....	4.87	51.06	11.76	80.00	61.53	69.20	100.00	100.00	100.00	100.00	
	XII	Does School possess a Library.....	94.70	93.61	95.58	95.00	100.00	84.60	90.90	100.00	100.00	100.00	
	XIII	Laboratories equipped for Pupils.....	75.20	85.10	89.70	95.00	92.30	83.30	90.90	100.00	100.00	100.00	
	XIV	Proportion of Schools which possess Manual Training Room.....	25.60	44.68	47.05	60.00	61.53	69.23	100.00	100.00	100.00	100.00	
	XV	Proportion of Schools which possess Domestic Science Rooms.....	13.82	42.55	35.29	60.00	61.53	69.23	81.81	90.90	100.00	66.60	
	XVI	Proportion of Schools which possess a Gymnasium.....	12.60	38.17	26.47	60.00	53.84	46.15	45.45	63.63	73.33	66.66	
	XVII	Proportion of Schools which possess an Athletic Field.....	38.31	61.70	33.82	70.00	23.07	30.75	36.36	54.54	26.66	66.66	
	XVIII	Volumes in Library.....	428	300	800	775	1,028	1,025	1,610	2,500	3,175	4,100	
	XXI	Sittings in General Assembly.....	50	70	142	155	250	287	420	375	703	1,108	
IV—Finance.	XXIV	Annual Salary Earned by Teachers.....	2,105	2,816	4,645	6,945	8,220	9,906	13,828	18,790	26,926	78,350	
	XXVI	Total Cost of Instruction.....	2,180	2,866	4,736	7,095	8,551	10,544	14,288	22,844	28,876	78,350	
	XXVII	Total Current Cost.....	2,505	3,850	5,921	8,311	11,270	14,705	17,495	28,425	37,482	102,158	
	XXVIII	Per Capita Cost.....	50.65	73.21	44.23	61.15	43.85	59.37	48.39	71.80	53.62	89.30	
	XXIX	Assessed Valuation T. H. S. Districts.....	1,934,374	1,657,236	1,657,236	2,038,657	4,909,938	6,085,632	1,108	1,08	1,565	1,565	
	XXX	Total Tax Rate per \$100.....		.77		.89		1.10					
	V—Course of Study.	XXXI	Number of Units Required for Graduation.....	16	16	16	16	16	16	16	16	16	
		XXXII	Number of Prescribed Units.....	13	11	9	8	8	8	7	7	7	
		XXXV	Number of Elective Units.....	4	5	6	7	7	8	9	9	3	
	IV—The Principal.	XXXIX	Total Experience of Principals.....	8	10	6	7	11	Over 20	12	15	19	
XXXIX		High School Experience of Principals.....	5	7	5	6	6	11	10	13	14		
XXXIX		Principals Tenure of Present Position.....	2	2	2	2	3	5	5	4	8		
XLI		Number of Classes Taught Daily by Principals.....	5	5	5	3	4	3	1	1	1		
XLI		Number of Subjects Taught by Principals.....	2	2	1	1	1	1	1	1	1		
XLIIV		Salaries of Principals.....	990	1,100	900	1,350	1,200	2,000	2,000	1,500	2,100	4,000	

TABLE XCIII—Continued.

Chapter.	Table.	Item.	Unit.	A 1-100		B 101-200		C 201-300		D 301-500		E 501-Over.		
				City H. S.	Twp. H. S.	City H. S.	Twp. H. S.							
VII—The Teacher.	LI	Total Teaching Experience of High School Teachers.....	Year.....	3	2	4	4	4	6	6	7	7	9	
	LI	Total High School Experience of High School Teachers.....	Year.....	1	1	1	1	1	3	3	3	2	5	
	LI	High School Teachers' Tenure, Present Position.....	Year.....	3	4	2	2	1	2	3	3	3	3	
	LV	Number of Teaching Positions.....	Position.....	3	1	6	8	9	9	2	14	16	23	38
	LVII	Salaries of Teachers.....	Dollar.....	698	737	774	819	794	932	890	1,127	1,011	1,422	
	LXXI <sup>a</sup>	Length of Term in Days.....	Day.....	180	182	181	180	181	182	180	185	186	184	
	LXXV	Number of Tuition Pupils.....	Pupil.....	14	8	33	18	41	28	59	37	65	15	
LXXVIII	Number of High School Graduates in 1915.....	Pupil.....	7	7	19	18	34	27	49	46	96	135		
VIII—The Student Body.	LXX	Number of Persons under 21 in High School District.....	Person under 21.....	234	429	763	853	1,764	2,457	2,789	2,857	6,086	6,912	
	LXXI	Elementary Enrollment in High School District.....	Pupil.....	163	257	434	533	1,219	1,142	1,715	1,481	3,271	4,307	
	LXXII	Eighth Grade Enrollment in High School District.....	Pupil.....	16	23	36	47	97	83	132	120	333	383	
IX College.	LXXXIII	Number of High School Graduates Attending Advanced Institutions.....	High school graduate.....	7	7	17	16	28	24	44	44	67	64	
	LXXXIX	Per cent of College Freshmen, Graduates of the Various High Schools Falling in one or more Courses.....	Per cent.....	40.79	36.36	40.97	38.46	36.92	33.33	38.79	33.33	33.79	41.55	
	LXXXIX	Per cent of Courses Failed by College Freshmen, Graduates of the Various High Schools.....	Per cent.....	8.56	8.81	7.80	10.99	6.87	6.65	7.93	6.60	6.43	8.82	
	LXXXIV	Median Average of Scholarship of College Freshmen, Graduates of the Various High Schools.....	Per cent.....	80.39	81.05	80.11	80.50	80.75	81.31	80.54	81.65	81.44	80.00	
	LXXXV	Size of Township High School District.....	Square mile.....	.....	36	.....	36	.....	36	.....	36	.....	14	
	LXXXVI	Average Number of Underlying Elementary School Districts.....	District.....	.....	8	.....	7	.....	8	.....	7	.....	3	
	LXXXVII	Average Number of Teachers in Each of the Underlying Districts.....	Teacher.....	.....	1.5	.....	3.6	.....	6.0	.....	11.2	.....	46.0	

TABLE XCVIII—Continued.

Chapter	Table	Item.	Unit.	A 1-100		B 101-200		C 201-300		D 301-500		E 501-Over.		
				City H. S.	Twp. H. S.	City H. S.	Twp. H. S.							
XI Launching A Township High School.	XCVI	Age of Township High Schools.....	Year.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	XCV	Initial Bond Issues Distributed Accord- ing to the Size of High School at Begin- ning.....	Dollar.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	XCVI	Initial Bond Issues Distributed Accord- ing to the Size of High School at Present.....	Dollar.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	XCVII	Per cent of Increase at End of Fifth Year over First Year.....	Per cent.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	XCVII	Per cent of Increase at Present over First Year.....	Per cent.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
					2½	6	8	22	17					
					20,000	40,000	55,000	.....	.....	.....	.....	.....	.....	.....
				20,000	20,000	50,000	30,000	60,000						
				10	40.7	33.6	35.0	10.2						
				18	59.3	74.0	130.5	245.7						

whether it be a city or township organization, can by reading the appropriate column discover the relation of their own school to others in the State. For example, in the case of a township high school of Class C, it will be noted that the median investment in sites and buildings is \$75,000, the median investment in equipment is \$5,000, the total capital investment is \$79,000, the cost of maintaining the plant is \$664, and so on down the table.

It will be readily seen that it is the purpose of this table to give a birdseye view of the schools of the State so far as this body of statistics is concerned. It is, of course, not designed to give a complete body of information since it confines itself largely to a presentation of the medians. In order to have this complete display of information, reference necessarily should be made to the chapters and the appropriate tables where the situation is completely displayed. A warning is in place at this point, since there will be a tendency on the part of some to regard a median as representing the most desirable situation. As was said in a previous discussion in this investigation, a person wishing to characterize a group of schools in a certain particular should examine the situation with the middle 50 per cent in view. If the school under consideration comes within the middle 50 per cent, it at least is not erratic. A local school situation should be discussed in detail on the basis of its local peculiarities, and any reasons for making it vary from the usual situation should be taken into consideration. Usually progressive school officers will prefer in matters of expense, training of teachers and other items having to do with the efficiency of the school, to locate their own school in the third quarter, that is, between the median and the third quartile.

Since the table above mentioned has been prepared, it is not necessary to state in language the characterizations that might be made concerning the various groups of schools on the basis of this table. The table itself exhibits these characterizations, and it may be read across or down according to the needs of the reader.

We now pass to a statement of the conclusions which have been reached in the preceding chapters.

Capital investments in township high schools in all grades of schools exceed those in city high schools. There is also a larger expenditure for permanent equipment in the case of township high schools than in the case of city high schools. It costs more to maintain a student in the township high school than in the city high school. The township high schools are more completely equipped in every way except one, namely, the library. The larger expenditure of money in the township high schools is due to the fact mentioned above, namely, that the board of education and its executive officers have more money available for this purpose and their attention is concentrated upon the single problem of secondary education and, hence, it is more adequately provided for in a financial way. The fact may well be brought out at this point also that the people will gladly support financially an educational institution if the financial organization is of such character that they can manage it. The obvious lesson is that the State should be so organized as to make the funds available.

A similar situation is evident upon an examination of the finances of the schools. The expenses increase directly as the enrollment. Township high schools cost more than city high schools. This greater cost is due to the greater equipment provided, the wider range of electives offered and the greater amount of vocational work provided.

It was found in the study of the capital investment and also in current finances that there is a greater deviation in the case of township high schools than in city high schools, in fact, there is greater deviation in township high schools than in city high schools throughout the study, also that in the township high schools there is greater tendency for variation in courses of study, in methods and practice in teaching, in other words, township high schools are more willing to experiment. This is probably due to the fact that executive officers are free in the formulation of their policies and have better opportunity of handling new enterprises in a financial way.

In an examination of the course of study it was found that the larger the high school the smaller the number of prescribed units laid down, and the larger the high school the larger the number of electives offered. The larger high schools provide wider opportunities for vocational work. As to the distinction between township high schools and city high schools, it was shown that the township high schools because of their greater financial resources provide a larger amount of vocational work. Corollary to the fact noted above wherein the township high schools show greater costs in every particular, it is evident in the matter of the course of study that they provide better opportunities for the students in a vocational way and in the form of a wider range of electives.

It was found in the study of the executive officers that the largest proportion of principals and superintendents have collegiate degrees. It was found also that the total number of years of school experience on the part of principals increases with the size of the school. This is true also with reference to his high school experience and his tenure of office in his present position. The high school principal has a longer teaching experience, a longer high school experience, and a longer tenure of office in his present position, in the township high schools than in the city high schools. It was noted in this connection that the high school principalship is entirely too transient and that remedial legislation of some sort should be undertaken to obviate this evil. It is clear that the policies of any school will be more stable and satisfactory if the position of the principal is more secure. The salaries of township high school principals are markedly greater than the salaries of city high school principals, and, in fact, are greater than the salaries of city superintendents who have in their systems of schools a high school of a corresponding size. The salaries of township high school principals are greater than the salaries of the principals of the schools of the North Central Association.

In the study of the teaching population it was found that the larger the school the greater the academic training of the teachers employed in it. On the whole, however, the experience of the teachers in the State

is pathetically short. Their experience in the high school and their tenure of office in their present position is ridiculously short. The teachers in the larger schools teach a smaller number of periods per day and a smaller number of subjects. As regards a comparison, township high school teachers have a greater academic training, they teach a smaller number of classes per day and a smaller number of subjects than city high school teachers. The fact was brought out also that about 40 per cent of the teaching positions of the State are occupied by men, a relatively large proportion, but that the amount of money paid to the men teachers was almost half of the total amount, due to the fact that the salaries of men are higher than those of women. The salaries paid to township high school teachers are greater than those paid to city high school teachers.

In an examination of the time units in the various schools it was noted that they are relatively uniform. The number of recitations in the daily program, the number of 40-minute periods, and the amount of time spent in the various periods is practically the same. There is a smaller number of tuition pupils coming to the township high schools than to the city high schools, due to the fact that the township high schools cover the neighborhood naturally tributary more completely than do the city high schools. The township high school has in its enrollment a smaller number in proportion to the elementary enrollment of its underlying districts than the city high school. It has a smaller enrollment in proportion to the eighth grade population of its underlying districts, and a smaller enrollment in proportion to the population under twenty-one in its underlying districts. All of these conditions are due to the fact that it covers a wider territory and transportation is more difficult.

All of the factors so far discussed must necessarily have a bearing upon the efficiency of the school. The final test of the efficiency of a school, however, is in the character and the resulting initiative and moral ability of the students coming from the school. There are no adequate tests for these values so far in the science of education. Probably the most significant measure we have is the performance of the graduates of these various schools in the colleges and universities to which they go. Because of this fact the study recorded in Chapter IX was undertaken.

It was found in this chapter that a larger percentage of graduates of city high schools fail in one or more courses in the University of Illinois than graduates of township high schools, that in the number of courses failed there was almost an equal percentage of courses failed by students from the township high schools and students from the city high schools, there being an advantage slightly in favor of the city high schools of .15 of one per cent. The median average in scholarship is in favor of the township high schools. The township high schools have the largest percentage whose averages fall below 70. In Classes A, B and C, that is, the smaller schools, they furnish the smallest percentage of those who fall below 70. In Classes D, E and F the township high schools furnish the largest percentage of those who fall below and also the largest percentage of those who are above 85.

The manifest conclusion here is that on the whole the township high schools have furnished a better grade of students to the University.

of Illinois than the city high schools. The outstanding fact, however, is that the township high schools are markedly superior to the city high schools so far as these university grades are concerned when they have underlying districts with well graded schools.

It was found in particular in Chapter 10 that the experience of the State in the organization of the high schools on this basis furnishes an adequate foundation on which to organize high school districts on the basis of social and geographical situation disregarding political boundaries. The school law of 1872, as heretofore noted, provides eight different forms of combination for districts and portions of townships. Since these high school districts have been formed in a great variety of sizes and shapes, they have furnished an adequate demonstration of the fact that schools can be administered without attention to these boundary lines.

Out of this situation three rather definite principles can be outlined for the organization of a new high school district.

1. There should be a school organization of sufficient size to give the best results educationally. An examination of the teaching situation and the course of study will show that so far as the course is concerned it can best be administered in a high school of not less than 200 in size. In a high school of from 200 to 300 approximately one-half of the work offered may be elective, thus providing properly for the natural difference existing among children. In schools of this size it is relatively easy to provide two years of work in the vocational field along several lines—commercial, technical, agricultural, and so forth. It is in this group of schools where the first advantages appear so far as size is concerned in the matter of careers of graduates in the university. At this point in size a markedly small number of high school graduates fail in one or more courses, and it is in cases of schools of this size where a much smaller percentage of courses are failed in the university. Consequently a strong effort should be made to incorporate districts which will include at least 200 pupils. Since, however, it will be necessary to incorporate some districts which will have less than this number a great effort should be made that no district will be so small in population as to have a high school of less than 100. High schools of less than 100 are the least efficient of all and are very expensive to operate. The method of determining the number of minors to include in a high school district to predetermine a high school of certain size is described in Chapter 8.

2. Another very definite principle which should stand out in the organization of new high school districts is the provision of an adequate taxing basis for the support of the school. It was pointed out previously on this point that the present legal provisions for the support of schools were established when elementary schools were practically the only schools in mind when the provisions were made. Since that time the whole system of secondary education has been built up without additional facilities being provided for it in a financial way. The township high school provides the most successful method of meeting this added financial burden, but this is never provided for satisfactorily unless the area taxed is sufficiently wide.

3. A third principle is the outlining of the high school district in such a way as to take care of problems of transportation. The school should be accessible. In order that this may be done the configuration of the territory and its geographical situation must be studied. Where pupils live at a distance free transportation should be provided at public expense.

It was found in the study of this matter of underlying districts that in the schools of 1 to 100 enrollment the largest proportion of the student population came from country and village schools. The pupils coming from country and village schools are also a large factor in township high schools ranging in enrollment from 100 to 200. In high schools larger than 300 the pupils usually come from well graded elementary school districts.

Two factors were found to be operative in inducing people to organize township high schools. One was the meager high school facilities already possessed, and the other the inadequate financial resources of such high schools. The organization of a township high school provided better high school facilities by way of providing larger financial resources.

It was found that the opposition to the organization of township high schools was of various kinds, namely, opposition of land holders, failure to understand the value of secondary education, the opposition arising from jealousy between rival communities, and the fear of additional taxes. It was found that after the high schools were in existence for some time that this opposition very largely disappeared. The school rapidly wins the favor of the people and the opposition becomes a relatively negligible quantity. This is also reinforced by the fact that a township high school grows in enrollment very rapidly. The fact was brought out that the township high school is a relatively young institution. It was found that in the organization of the township high school the initial bond issues were practically always too small.

The net conclusion in a single statement that might be drawn from the foregoing study is:

1. That a school increases in efficiency as it increases in size.
2. That the township high school is more efficient than the city high school because of the fact that this particular type of organization permits the accumulation of larger financial resources and, hence, provision of all kinds of advantages. Furthermore, that this type of organization centers attention and study upon secondary problems to the exclusion of others.
3. Those township high schools are most efficient which have well organized underlying elementary schools.

A final word of encouragement for the reorganization of the schools of the State may be found in the fact that although there is considerable opposition to the organization of the township high schools in their inception this opposition vanishes rapidly as the people have experience with the new institution. On the basis of this experience we should be encouraged to reorganize all the territory of the State into high school districts, being assured that the people will be in support of this movement when the new organization is once under way. Similarly, all kinds

of schools can be organized into larger units and thereby increase their efficiency and at the same time retain the support of the people.

### PROGRAM OF LEGISLATION.

In a consideration of this topic based upon the preceding conclusions it must be kept in mind that what is said now is largely opinion although it is hoped well authenticated opinion, whereas the preceding statements have been based upon an adequate basis of fact.

The interests of the State so far as high school education is concerned are now in jeopardy. An emergency exists and a new program must be formulated. The fact is that the State is completely organized so far as the University is concerned and so far as elementary education is concerned. The entire State is a single school district for the support of the University of Illinois. The entire State is divided up into elementary school districts for the support of elementary schools. A portion of the State is organized into districts which support high schools. As in the case of the University and the elementary schools, the entire State should be included in high school districts.

The problem that now confronts the educational leaders of the State and the General Assembly is the best method of accomplishing this purpose. The experience of the State so far as its township high schools is concerned ought to be pertinent in the solution of this problem. In the first place, small villages and in some cases more separated communities have been welded together in the support of a township high school which is in every respect efficient. When such a township high school district was organized jealousy in the community was rife. As experience demonstrated to the people the benefits of the local high school these jealousies have disappeared. It would seem then that the local preferences in the organization of high school districts should be totally disregarded and that the central principle determining its organization should be the efficiency of the high school.

On the basis of the three principles discussed above it is true that there will be certain districts in the State that it would be impossible to so weld into a high school district because of the fact that the population is so widely scattered. In such cases where it is manifestly impracticable to locate a high school, a high school district should be organized for the purpose of paying the tuition of those pupils who have an ambition to secure a high school education by attending high school outside the districts in question. It is also true that there is territory adjacent to large city districts which could not easily be organized into township high school districts. This territory is naturally tributary educationally as well as commercially to the center of population which it surrounds. In this case it would be difficult to combine the territory with the city district mentioned because of the fact that the outside population would not be willing to bear their portion of the expense of supporting the elementary schools. On the other hand, it would be unwise to organize additional high schools because of the fact that there would not be a large enough number of people for such a high school. In this case, as in the other, the obvious thing to do is to organ-

ize the district for the purpose of paying tuition. With these two provisions for unorganized territory it ought to be possible to organize all the territory of the State of Illinois into high school districts and thus close up the last great gap in the free education of the people.

One more thing remains to be discussed, namely, the articulation of the high school with the underlying elementary schools. It was noted in the preceding study that the graduates from those other schools having a large rural and village constituency did less efficient work in the University of Illinois. The best students in the university came from township high schools of large financial resources and having well organized elementary school districts contributing to them. There is not in this body of statistics anything showing that the articulation between the high school and the elementary school is more perfect in the case of city high schools than in the case of township high schools. A priori considerations lead one to assume that the articulation between the high school and the elementary school is more satisfactory between city high schools and their underlying schools. It would be interesting to gather statistics bearing upon this point, but there is not enough difference to make a showing in the statistics regarding the career of scholarship in the University of Illinois. A consideration of this fact, however, should not induce us to underestimate the value of trying to secure proper articulation between elementary schools and high schools. If this is done, all sorts of devices for securing cooperation might be put into effect, such as the readjustment of courses, the study of the harmonious selection of text books, the training of the teachers as a part of a single body of instructors, the organization of junior high schools, and so forth. Undoubtedly when proper methods of articulation have been worked out it will be found that the line distinguishing the elementary and high school work will not be sharply drawn, but the work of the one will gradually merge into the work of the other and the school system will actually be one in spirit and operation as well as in name. However, the best immediate step to take is not to organize consolidated districts with a high school at the top of the system. This will inevitably result in the organization of districts too small to secure the best results. The best plan is to build upon the evolution of the high schools in the State as it has so far progressed. Organize high school districts covering a territory sufficiently wide and a transportation system sufficiently compact and a body of population sufficiently large to secure the kind of high school which will give the greatest efficiency. After these more efficient high schools are organized and thoroughly established in the State through a series of years of experience then later readjustments may unite all the elementary schools and the high schools into a single educational institution under a centralized management. Every locality in the State then would have a complete system of education from the first primary grade through the high school, the high school being in direct contact with the University. We would then have a complete system of American education.

## APPENDICES.

### APPENDIX A.

Special Charter of the Princeton Township High School District upon which the General Township High School Law of 1872 was Modeled.

*AN ACT to Incorporate the Princeton High School District.*

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly,* That all the territory now included within the boundaries of the township of Princeton, in the county of Bureau and State of Illinois, together with such territory as may be hereafter added thereto, be and is hereby established a common high school district, to be known as the "Princeton High School District."

SEC. 2. The government, care and superintendence of the public high schools within said district, and of the funds and estate, both real and personal, belonging to, and which may be hereafter acquired by or conveyed to said district, shall be vested in a board of education of said high school district.

SEC. 3. The following named persons, to wit: John H. Bryant, Flavel Bascom, Jacob Critzman, Mathew Trimble and George D. Ide, shall compose the first board of education of said high school district, until their successors are duly elected and qualified as hereinafter provided. It shall be the duty of said persons or a majority of them, to assemble within sixty days after the passage of this Act, at the court house in said Bureau County, and organize as such board of education by electing one of their number president, and one as clerk of said board. They shall appoint a treasurer of said high school district, and shall have all the powers, and be governed in all other respects by the provisions of this Act, as far as the same may be applicable. The said persons, or a majority of them, shall have the power to fill vacancies in their number occasioned by declination, disqualification, resignation, death, or removal from said high school district.

SEC. 4. The persons composing said board of education, provided for in the third section of this Act, shall hold their offices as follows: Two of them until the first Tuesday of June, 1868, two until the first Tuesday of June, 1869, and the fifth until the first Tuesday of June, 1870. The respective terms of office of the members of said board appointed and provided for as aforesaid, shall be determined by them at their first meeting by casting lots.

SEC. 5. On the first Tuesday of June, 1868, and on the first Tuesday of June annually thereafter, an election shall be held to elect successors to those members whose terms of office are then expiring, and to fill all vacancies, if any, occurring in said board, during the preceding year.

The persons elected at such annual elections shall hold their offices for three years, or until the expiration of the unfinished terms which they have been elected to fill, as the case may be.

SEC. 6. The said board of education, or the remaining members thereof, shall have the power to fill, until the ensuing annual election in said high school district, all vacancies in said board occasioned by death, resignation, disqualification, failure to elect, or removal from said district, and to fill by appointment, vacancies among the officers of said board occasioned by any of the causes aforesaid. The members of said board, and the treasurer appointed by them, shall, previous to entering upon their official duties, take an oath, in addition to those prescribed by the Constitution of this State, faithfully and impartially to discharge the duties of their respective offices to the best of their abilities.

SEC. 7. Notice of such annual elections shall be given by the clerk of said board by posting written or printed notices of the time, places and objects of such elections in three of the most public places in said district, at least ten days before such elections are held, and also by publishing a similar notice in some newspaper published in said district, by one insertion at least one week previous to the day of election. Said elections shall be held at the usual place for holding general elections in said township, and shall be by ballot. The president of said board, and two members thereof, to be selected by said board, shall be judges, and the clerk of said board clerk of such elections; but if any of said officers shall fail to attend, or refuse to act, the electors assembled shall, viva voce, choose three judges and a clerk of the election. A poll book shall be kept by the clerk, registering the names of the voters, and the persons receiving the highest number of votes shall be declared elected. In case of a tie in any election, the judges of election shall decide the same by casting lots on the day of the election. Elections shall be opened at the hour of 10:00 o'clock a. m., and close at the hour of 5:00 o'clock p. m. The judges and clerk shall certify to the board of education the names of the persons so elected members of said board, the term for which they were elected, and the number of votes each person voted for received, and shall return their certificate and said poll book to the said board within ten days after such election.

SEC 8. Said board of education is hereby created a body corporate and politic, by the name of the "Board of Education of the Princeton High School District," and that name may sue and be sued, plead and be impleaded, answer and be answered unto, in all courts and places, contract and be contracted with, and have perpetual succession and a common seal, and the same may alter or change at pleasure. Said board may exercise, in the furtherance of the objects contemplated by this Act, all the powers conferred on the school trustees of townships or boards of directors of school districts, by any law now in force, or that may be hereafter enacted. Said board shall have power to receive and hold, in their said corporate name, all real and personal property that may be conveyed, given or devised to it for said district, and in the said corporate name to dispose of and convey the same, for the benefit of said district. All conveyances of real estate made by said board shall be executed and acknowledged by the president of said board, and attested by the corpor-

ate seal and by the signature of the clerk. *Provided*, that all such conveyances shall be authorized by a resolution of said board: *And, provided, further*, that all sales and conveyances of school houses, buildings and grounds appurtenant thereto, shall be first determined by a majority of the votes cast by the electors of said district, upon the submission by said board by the question of said sale at an annual election, due notice having been first given as provided in section 7 of this Act.

SEC. 9. Said board of education shall have the following additional powers:

*First*—It shall have power to establish, maintain and regulate a high school, with the necessary departments, within said district.

*Second*—To prescribe, by regulations, the qualifications for admission into said high school and its respective departments, of persons residing in said district, free of charge for tuition therein, and also to provide for the admission into the same of persons residing without said district, upon such terms and payment for tuition as said board shall regulate.

*Third*—To have the custody and control of all high school property in said district.

*Fourth*—To erect, hire or purchase buildings suitable for the purposes of such high school and its necessary department.

*Fifth*—To buy or lease sites for such high school and its departments, with its necessary grounds.

*Sixth*—To purchase, lease, control and improve play grounds or parks adjacent to such high school or its necessary departments.

*Seventh*—To furnish said high school and its departments with necessary fixtures, furniture, books, apparatus and libraries, and to provide for the proper care, protection and maintenance of the same.

*Eighth*—To employ teachers, determine their duties and fix the compensation to be allowed them from time to time, and at any regular or special meeting, all the members of said board being present at such special meeting, to dismiss such teachers or any of them, for gross immorality, incompetency, or other adequate cause.

*Ninth*—To direct what studies and branches of learning shall be taught, and what text books shall be used in said high school and its several departments.

*Tenth*—To establish departments or different grades in said high school, and to make all necessary rules and regulations for the admission and advancement of applicants and pupils, and for the government of said high school and its departments; to suspend or expel pupils guilty of refractory, disobedient or immoral conduct, or possessed of any infectious or contagious disease.

*Eleventh*—To appoint agents and servants to execute any matter conducive to the interests of said high school district, consistent with this Act, and for their services to pay them such reasonable compensation as said board shall fix.

*Twelfth*—For the purpose of building a high school and other school buildings, and additions thereto, for the use of said high school district, and of repairing and improving the same, and purchasing real estate for such buildings, libraries, apparatus, and other objects contemplated by

this Act, or of paying indebtedness contracted therefor, it shall be lawful for said board to borrow money, at a rate of interest not exceeding 10 per cent per annum, and to issue bonds therefor in sums of not less than one hundred dollars, which bonds shall be signed by the president and attested by the clerk and seal of said board.

SEC. 10. Said board of education shall have full power, and it shall be its duty, to determine the amount of money needed to maintain said high school and its department, and to pay all expenses of said district, of every description, for each school year, and to determine the amount of money needed at any time for the purpose of purchasing, leasing or improving grounds for said high school objects, or of purchasing, leasing, building, finishing, repairing, improving or extending their said high school houses, or of procuring furniture, libraries and apparatus, or of paying the indebtedness of said high school district. Said board shall have power and authority to levy taxes upon all the taxable real and personal property in said district, for the purpose of raising said amounts of money so determined by it. Said board shall designate the amount of money required for the maintenance and expenses of said high school and its departments for each school year, as aforesaid, "school tax;" and the amount required for any other purposes specified in this section, said board shall designate "school house tax." It shall be the duty of said board to ascertain, at any meeting prior to the second Monday of September, annually, the rate per cent upon the assessment of real and personal property in said high school district for State and other purposes for that year, needed to be levied to raise the amount of "school tax" determined upon, and what rate per cent upon the same will be needed to raise the amount of "school house tax" determined upon; which rate or rates shall be certified by the president and attested by the clerk of said board, and returned to the clerk of the county court of said Bureau County on or before the second Monday of September, annually. The certificate or certificates so made may be in the following form, as near as may be:

The Board of Education of the Princeton High School District requires the rate of ..... per cent on the dollar to be levied on the taxable property of said district, for the year....., for the purpose of school tax, (or school house tax, as the case may be).

Dated this ..... day of ..... 18....

A.....B..... President.

Attest: C.....D..... Clerk.

It shall be the duty of said county court to extend the tax or taxes so certified to him in one column, under the name of "high school tax," according to said rate or rates upon the book for that year of the collector of taxes for the territory embraced in said high school district; and the said taxes shall be collected as other taxes are or may be, and, when collected, shall be paid over, on demand, to the treasurer of said district. The said county clerk and collector shall receive for their services the same compensation as now is or may be provided for extending and collecting district school taxes." It is, however, provided that the rate to be levied in any one year for school house tax shall not exceed five per cent on said valuation.

SEC. 11. Said Board of Education shall hold regular meetings once each month, at such time and place as shall be designated by the rules of said board. Said board shall make, from time to time, all needful rules and regulations for its own government and that of all officers, teachers and agents appointed by said board, and for the custody, control, care and management of the school's fund and property belonging at any time to said district.

SEC. 12. Said board, shall, annually, at its stated meeting in July, elect a president and a clerk, both of whom shall be members of said board, and who shall hold their offices for one year. Said board shall also, at said meeting, appoint a treasurer of said high school district, who shall not be a member of said board, and who shall hold his office during the pleasure of said board. The said record shall be signed by the president and attested by the clerk; and the same or certified copies thereof, under the hand of said clerk and the seal of said board, shall be prima facie evidence of the proceedings of said board in all courts and places. Said board may adjourn from time to time, and the president or any two members thereof, may call special meetings, at such time and in such manner as the rules of said board shall provide. Three members of said board shall constitute a quorum for the transaction of business. In the absence of the president or clerk, the board may appoint a president or clerk pro tem.

SEC. 13. Said Board of Education may make such rules concerning the duties of the treasurer and the disposition of the funds and other property in his custody, as are not inconsistent with this Act.

SEC. 14. The treasurer of said high school district shall execute, within ten days from his appointment, a bond, with two or more good and sufficient sureties, to be approved by said board, which bond shall be filed and recorded by the clerk, shall be made payable to said board in a penalty to be fixed by said board, and conditioned that he will safely keep, and, from time to time, pay over, upon the order of said board, all moneys and effects which shall come into his hands or under his control as such treasurer, and will deliver over to his successor in office, all books, papers, securities, property and moneys remaining in his hands, and belonging to said district, and will faithfully discharge the duties of his office according to law, and the rules made by said board from time to time. It shall be the duty of said treasurer to receive and keep all moneys due and payable to said district. He shall keep an accurate account of all moneys received and paid out by him, in a record to be kept for that purpose, and shall pay out no moneys or other effects excepting on the order of said board. He shall retain vouchers for all moneys so paid out, and shall receive from all moneys paid out on such orders, a fee, to be fixed by said board, not exceeding two per cent. He shall settle his accounts with said board at the August meeting in each year, and shall produce his books and papers to said board whenever required so to do. All orders on said treasurer shall state for what purpose issued, shall be signed by the president, and registered and attested by the clerk of said board.

15. No person shall be eligible to serve as a member of said board, or to vote at any election provided for in this Act, or to act as judge or

clerk of such election, unless he shall be a resident of said district, and have the qualifications of an elector at township elections.

SEC. 16. The said Board of Education is hereby made the successors in office of the directors of the high school district, organized in the said township of Princeton, and known by the name of "The High School District of Princeton;" which said last named district is hereby merged in the high school district created by this Act. All high school buildings, property and real estate belonging to said high school district of Princeton, are hereby conveyed to and vested in said Board of Education and its successors in office, in fee simple, for the purposes contemplated by this Act. It is hereby made the duty of the trustees of schools of said township to execute and deliver to said Board of Education, all conveyances requisite to perfect, in said Board of Education, the title to all real estate now held in trust by said trustees for said high school district of Princeton.

SEC. 17. The said Board of Education shall have the power, and is hereby directed, to ratify, assume and carry out all contracts made and entered into by said directors, on behalf of said district, for building and other school objects, and, for the purpose of executing such contracts, shall levy taxes and issue bonds as provided in this Act.

SEC. 18. Nothing in this Act shall be construed as affecting the present organization of the common school districts in said township, or the control and conduct of the same under the general laws of this State.

SEC. 19. This Act shall be deemed a public Act, and shall be in force from and after its passage.

APPROVED February 5, 1867.

**APPENDICES.**

**APPENDIX B.**

**THE GENERAL TOWNSHIP HIGH SCHOOL LAW.**

The general township high school law was first passed by the General Assembly in 1872, and has been in successful operation for a quarter of a century. From time to time the law was modified as necessity seemed to indicate. It was incorporated in the codification of the school law which was enacted in 1909. After this date it was further changed by amendment in relatively unimportant ways until 1917, when far reaching amendments were enacted which were designed to develop real community high schools on the township high school plan. The law as amended in 1917 is given in Appendix E. The law as it stood just preceding this last far reaching amendment is given below. In this form it comprises Sections 85 to 97 inclusive of the School Law as amended by the Forty-ninth General Assembly.

SEC. 85. Upon petition of fifty or more legal voters of any school township, filed with the treasurer at least fifteen days preceding the regular election of trustees, it shall be the duty of the treasurer to give notice of an election to be held at the next regular election of trustees for the purpose of voting "for" or "against" the proposition to establish a township high school. Notices of such election shall be posted in at least ten of the most public places throughout the township, for at least ten days before the day of such regular election, and may be in the following form:

**NOTICE OF ELECTION.**

Notice is hereby given that on Saturday, the ..... day of April, 1....., an election will be held at..... for the purpose of voting "for" or "against" the proposition to establish a township high school for the benefit of township number..... range number..... The polls will be opened at..... o'clock ....M.  
 A.....B.....

Township Treasurer.

The trustees of schools shall conduct the election, canvass and declare the result. The ballots shall be in substantially the following form, to-wit:

For the establishment of a township high school	
Against the establishment of a township high school	

The voter shall make an X or cross mark in the square following and opposite the proposition favored, and the ballot shall be so counted. (As amended by an Act approved June 6, 1911.)

SEC. 86. If a majority of the votes cast shall be in favor of establishing a township high school, it shall be the duty of the trustees of schools to call a special election on any Saturday within sixty days, for the purpose of electing a township high school board of education, to consist of five members, notice of which election shall be given for the same time and in the same manner as provided in the election of trustees of schools. The members elected shall determine by lot, at their first meeting, the length of term each is to serve. Two of the members shall serve for one year, two for two years, and one for three years from the second Saturday of April next preceding their election. At the expiration of the term of office of any member or members, a successor or successors shall be elected, each of whom shall serve for three years, which subsequent election shall be held on the same day and in the same manner as the election of trustees of schools. In case of a vacancy, the board shall call an election without delay, to be held on any Saturday. Within ten days after their election the members of the township high school board of education shall meet and organize by electing one of their number president, and by electing a secretary. It shall be the duty of such high school board of education to establish, at some central point convenient to a majority of the pupils of the township, a high school for the education of the more advanced pupils.

SEC. 87. Two or more adjoining townships, or two or more adjoining school districts, whether in the same or different townships, may, upon petition of at least fifty legal voters in each of the townships or school districts, or if a school district contains fewer than 150 voters, then by at least one-third of the legal voters of such district, and upon an affirmative vote in each of such townships or districts, at an election held pursuant to the provisions of section 85 of this Act, establish and maintain in the manner provided for township high schools, a high school for the benefit of the inhabitants of the territory described in such petition.

SEC. 88. The inhabitants of any territory composed of parts of adjoining townships, who are now maintaining a high school and who have elected a board of education, may create such territory into a high school district by a petition signed by fifty legal voters of such district and an affirmative vote in such district, and may elect a board of education therefor, as in other high school districts. When part of a township has been included in a high school district pursuant to any of the provisions of this Act, the remainder of such township not included in any high school district, shall constitute a township for high school purposes.

SEC. 89. Any school district having a population of two thousand (2,000) inhabitants or more may, in the manner herein provided for establishing and maintaining a township high school, establish and maintain a high school for the benefit of the inhabitants of such school district, and elect a board of education therefor with the same powers conferred on township high school boards of education. The territory of

such district when so organized for high school purposes shall constitute a high school district for high school purposes distinct and separate from the common school district having the same boundaries, and the high school board of education of such high school district shall have the same power to levy taxes and establish and maintain high schools as township high school boards of education organized under this Act possess, and such taxes shall be in addition to the taxes authorized to be levied by section 189 of this Act. All school districts which have heretofore organized under this section, elected a high school board of education, and are maintaining a high school, shall be regarded as high school districts distinct and separate from the common school district having the same boundaries, shall have the same power of taxation as township high school boards of education organized under this Act. A township or part of a township in which there is no township high school may be annexed to an adjacent high school district organized under this section in the same manner as near as may be as is provided in sections 94, 95 and 96 of this Act for the annexation of territory to a township in which a high school has been established.

SEC. 90. When any city in this State having a population of not less than one thousand and not exceeding one hundred thousand inhabitants, lies within two or more townships, that township in which a majority of the inhabitants of the city reside shall, with the city, constitute under this Act a school township for high school purposes.

SEC. 91. For the purpose of building school houses, supporting the school and paying other necessary expenses, the territory for the benefit of which a high school is established under any of the provisions of this Act, shall be regarded as a school district, and the board of education thereof shall, in all respects, have the power and discharge the duties of school directors, for such district: *Provided, however,* That in all elections called under the provisions of this Act for voting on any one or more of the following propositions, to wit: To purchase or locate a schoolhouse site; to purchase, build or move a schoolhouse, or to levy a tax to extend schools beyond nine months, or to borrow money; that said board of education shall have the power to establish a suitable number of voting precincts for the accommodation of voters of the district in which said election is held, and they shall fix the boundaries of said precincts, and designate one polling place in each, and said precincts shall be composed of contiguous territory in as compact form as may be for the convenience of the electors voting therein; the said board shall appoint two judges and one clerk for each polling place, assigning so far as practicable, at least one member of such board to each polling place. Notice of all such elections shall be in the form now prescribed by law and be posted by the said board of education in at least three of the most public places in each of said voting precincts at least ten days previous to the day of election. (As amended by an Act approved June 26, 1913.)

SEC. 92. When any district desires to discontinue the high school, the treasurer, upon petition of a majority of the legal voters of the district filed at least fifteen days preceding the regular election of trustees of schools with the treasurer of such district, shall give notice of an election to be held on the day of the regular election of trustees, for the

purpose of voting "for" or "against" the proposition to discontinue the township high school, which notice shall be given in the same manner and for the same length of time, and in substantially the same form, as the notice provided for in section 85 of this Act. The ballots for such election shall be canvassed in the manner provided for in section 85 of this Act. If a majority of the votes cast at such election shall be in favor of discontinuing the high school, the trustees of the school shall surrender the assets of the high school to the district fund of the township or townships interested in proportion of the assessed valuation of the townships or parts of townships comprising such district.

SEC. 93. When any township in any county under township organization shall contain two political towns divided by a navigable stream as recognized by the United States, each of which shall contain a city of less than one thousand or more than one hundred thousand inhabitants, each town shall constitute a township under this Act for high school purposes.

SEC. 94. A township or part of a township in which there is no township high school may be annexed, in the manner hereinafter provided, to an adjacent township in which a township high school has been established. Upon petition of five per cent of the legal voters of the territory to be annexed, and of the township to which annexation is desired, filed with the treasurers of the respective townships at least fifteen days preceding the regular election of trustees of schools, the respective treasurers shall give notice to the voters concerned that an election for or against annexing the township or part of a township, as the case may be, will be held at the next regular election of trustees of schools in each township, by posting notices of such election in at least ten of the most public places in the territory to be annexed, and in the adjacent township, at least ten days before the date of such regular election. Such notice may be in the following form, to wit:

HIGH SCHOOL ANNEXATION.

Notice is hereby given that on Saturday, the ..... day of April 1,....., an election will be held at..... for the purpose of voting "for" or "against" the proposition to annex for township high school purposes the following territory, to wit: (Here insert the number and range of the township when the whole of the township is to be annexed, or when part of a township is to be annexed insert the said part of said township), to township number....., range number..... (Township having an established high school).

The polls will be opened at.....o'clock .....M., and closed at.....o'clock.....M.

A.....B.....

Treasurer.

When less than the whole of a township is to be annexed, only the voters in the territory to be annexed shall have the right to vote, and the trustees of schools shall provide a voting place for that territory and the judges and clerks of such election.

SEC. 95. If petition request the township treasurers, respectively, to submit such question at a special election, it shall be the duty of the township treasurers to call the respective elections, as provided in the foregoing sections for some day and hour not exceeding thirty days from the date of the filing of the petition; and give at least ten days' notice of the election, in which event the polls of the election shall be open in at least two polling places and for at least four consecutive hours, and the polling places in the respective townships shall be designated and fixed by the treasurers respectively. If a majority of the votes cast in the township having an established high school, and a majority of the votes cast in the territory to be annexed shall be in favor of the proposition, the township or territory, as the case may be, shall be and become so annexed, and the property in such township or territory shall thereafter be subject to taxation for the support and maintenance of the township high school, including the payment of any bonded indebtedness of such township high school, and interest thereon, thereafter falling due, as fully and to the same extent as is provided by law for the levying of taxes upon property for the support and maintenance of township high schools. The taxes collected from such township or territory annexed for the support and maintenance of a township high school shall be paid by the officer collecting the same to the township treasurer of the township having the established high school.

SEC. 96. Such election shall be held in the manner provided by law for the holding of elections for township trustees of schools, and the ballots of such election shall be canvassed, and the returns thereof made as in other school elections. If a majority of the votes cast shall be in favor of the proposition, it shall be the duty of the township treasurer of the township which is annexed, or part thereof, as the case may be, to file a certificate with the county clerk of the county in which such township is located, or if such township is located in more than one county, with the respective clerks of such counties, certifying to the territory so annexed and giving a description thereof.

SEC. 97. Upon a petition of not less than fifty voters of any high school district, filed with the township treasurer at least fifteen days preceding the regular election of members of the board of education for such high school district, it shall be the duty of the treasurer to notify the voters of such district that an election "for" or "against" the establishment of a manual training department for such high school will be held at the next annual election of the board of education by posting notices of such election in at least ten of the most public places throughout the township for at least ten days before the day of such regular election, which notice may be in the following form, to wit:

#### HIGH SCHOOL ELECTION.

Notice is hereby given that on Saturday, the.....day of April, 1....., an election will be held at the..... for the purpose of voting "for" or "against" the proposition to establish a manual training department for the high school in township No.....

range No..... The polls will be opened at.....o'clock....M.,  
and closed at.....o'clock....M.

.....  
Township Treasurer.

The ballots for such election shall be canvassed as in other elections, and may have on them the names of the persons voted for at such election. If a majority of the votes cast shall be in favor of establishing a manual training department for the high school in such district, it shall be the duty of the board of education to establish and maintain therein such department as a part of the high school.

**APPENDICES.**

APPENDIX C.

**THE TOWNSHIP HIGH SCHOOL LAW OF 1905.**

This law in no sense contravenes the general township high school law but provides another method of organizing township high schools.

*AN ACT to Authorize the Organization of High School Districts.*

**SECTION 1.** *Be it enacted by the People of the State of Illinois represented in the General Assembly,* When any school township not constituting the whole or any part of a township high school district shall contain a school district having a population of not less than eight thousand (8,000) and not over one hundred thousand (100,000) inhabitants, whether such school district is acting under the general school law or organized and acting under a special charter, such school township may become organized as a high school district by submitting the question of such organization to a vote of the people of such township at a special election to be called and held in the following manner, to wit: Upon a petition of not less than fifty (50) legal voters of any such school township, filed with the county superintendent of schools of the county wherein such township or the greater part thereof may be situated, he shall within ten days thereafter notify the voters of said township that an election "for" or "against" a high school district in said township will be held at the usual place or places of holding elections in said township for the election of trustees of schools, by posting notices of such election in at least ten of the most public places throughout such township for at least ten days before the election, which notices may be in the following form:

**HIGH SCHOOL DISTRICT ELECTION.**

Notice is hereby given that on.....the  
 .....day of ..... A. D. ...., an election  
 will be held at.....for the purpose of voting  
 "for" or "against" the proposition to establish a high school district in  
 and for the benefit of township No....., Range No.....

The polls of said election will be open at.....o'clock and close  
 at .....o'clock of said day.

.....  
 County Superintendent of Schools of .....County.

Such election shall be held within twenty days after the filing of  
 said petition and shall be conducted and the ballots cast thereat shall  
 be canvassed and the returns thereof made to said county superintendent

of schools as and within the time and the manner provided for election of school trustees in and by article three (3) of "An Act of the General Assembly of the State of Illinois, entitled, 'An Act to establish and maintain a system of free schools,' " approved May 21, 1889, and the amendments thereto, and if a majority of the votes cast at such election shall be found to be in favor of a high school district such township shall constitute a school district under this Act for high school purposes.

SEC. 2. The members of the board of education of such school district so containing not less than eight thousand (8,000) inhabitants together with such additional members to be selected from the respective boards of directors or boards of education, as the case may be, of the several other school districts situated within such school township as may be determined upon, shall constitute the board of education of such high school district, and such board, when chosen, organized and qualified, shall have the powers and discharge the duties respectively of the board of education of said school district in such township having over eight thousand (8,000) inhabitants.

SEC. 3. The county superintendent of schools of the county wherein such township or the greater part thereof shall be situated, shall within ten days after the returns of such election shall have been made to him, determine the number of members of the board of education of such high school district to be chosen from the respective boards of the several school districts in such school township in the following manner, to wit: He shall first obtain a ratio of representation by dividing the number of persons under twenty-one years of age residing in such school district containing over eight thousand (8,000) inhabitants as ascertained by the last preceding enumeration, by the full number of members constituting the board of education thereof and then assign to each of the other districts in such township one member of such board for each time such ratio may be contained in the respective number of such persons under the age of twenty-one years residing in each of such other districts as ascertained as aforesaid: *Provided, however,* that in case the total number of such members determined in the manner aforesaid shall exceed fifteen, then the said superintendent shall divide the entire number of such persons under the age of twenty-one years residing in such township by fifteen (15) and thereby obtain a new ratio and then make an apportionment between all the primary school districts in such school township, upon the basis of such new ratio, assigning one member for every time such ratio shall be contained in the number of such persons residing in each of such districts respectively, and one member for the largest fractions of such ratio, if necessary, to make the total number equal to fifteen, and within three days thereafter said superintendent shall notify the president of each of the said boards of said primary school districts of the result of such apportionment and that said boards must make a selection of the number of members of said high school board of education, each of their respective school districts shall be entitled to. When ten days after such notice shall have been given, the said respective boards of the primary school districts in such township shall meet upon a call of the president thereof and elect by ballot the number of members of such high school district, such primary school

districts may be entitled to respectively, and the president and secretary of said boards shall certify the result of such election in writing to the said county superintendent within three days thereafter, and thereupon the said county superintendent shall appoint a meeting of the several persons so chosen, for the purpose of organization, and give each person so chosen, notice by mail postpaid of such meeting and the time and place thereof.

SEC. 4. Said board shall organize by appointing one of their number president and some person who shall not be a member of such board but who shall be a resident of such high school district, treasurer, who shall be *ex officio* clerk of such board: *Provided*, that this board may, by a resolution to be adopted by a two-thirds vote of all the members thereof, determine to elect one of its own members secretary and fix his compensation and the term of his office, and by a like resolution, said board shall determine when the term of office of the president and treasurer shall commence. The treasurer shall execute a like bond to the board of education in the same manner with like sureties and with the same force and effect as the bonds which are required to be given by township treasurers in and by article four (4) of said Act, and shall exercise the power and discharge the duties of his office in the same manner, as near as may be, as is required by such township treasurers and shall hold his office for one year and until his successor is appointed and qualified, but may be removed by the board for good and sufficient cause.

SEC. 5. The president shall hold his office for one year and until his successor shall be appointed, but he may be removed by the board for good and sufficient cause. It shall be his duty to preside at all meetings of the board and it shall be the duty of the clerk to be present at all meetings of the board, and to record in a book to be provided for that purpose all of their official proceedings, which book shall be a public record, open to the inspection of any person interested therein. All of said proceedings when recorded shall be signed by the clerk. If the president or the clerk shall be absent or refuse to perform any of the duties of his office at any meeting of the board, a president or clerk *pro tem* may be appointed.

SEC. 6. For the purpose of building school houses, supporting schools and paying other necessary expenses, the townships for the benefit of which a high school district may be established under the provisions of this Act, shall be regarded as school districts and the board of education thereof shall have power and authority to levy a tax annually upon all the taxable property of such high school district of one-half the amount which boards of education of township high schools organized and acting under the provisions of sections 38, 39, 40, 41 and 42 of article three (3) of said Act, now have power and authority to raise. It shall be the duty of such high school board of education to establish at some central point most convenient to a majority of the pupils of the district, a high school for the education of the more advanced pupils and said board may establish and maintain a manual training department and a domestic science department.

SEC. 7. High school districts organized under the provisions of this Act may borrow money and issue bonds therefor for the purposes and in

the manner authorized and provided in and by an Act entitled, "An Act to authorize the certain school districts to issue bonds for certain purposes," approved May 10, 1901: *Provided, however*, that the amount so borrowed shall not exceed three-fourths the amount authorized by said Act.

SEC. 8. One or more school districts adjoining any high school district organized and existing under this Act may be annexed to such high school district and become a part thereof by a joint resolution or resolutions to be adopted by a vote of a majority of all the members of the board of directors or board of education of the district or districts so to be annexed, and by a majority vote of all the members constituting the said board of education of such high school district, which joint resolution or resolutions shall set forth specifically the terms and conditions of such annexation, and shall provide that such district or districts so to be annexed shall contribute such amount as may be agreed upon toward the cost of any school-house or school house lot or other such school property owned by such high school district at the time of the annexation, which amount or amounts so agreed upon and fixed, shall be raised by the respective boards of the district or districts so being annexed in the same manner as such district might have raised a like amount for the purpose of building school houses therein, and when so raised, the same shall be used to pay any existing indebtedness theretofore incurred by such high school district, in the manner to be determined upon by said board: *Provided, however*, that before any such resolution for the annexation of any such district or districts shall take effect and be in force, the question of the adoption of the same shall be submitted to the legal voters of such said high school district and of the districts proposed to be annexed at elections to be called and held in the same manner as elections for township high schools under sections 38, 39 and 40 of article three (3) of the act mentioned in the first section of this act, and a majority of the votes cast in each district at such elections shall be required in order to adopt such resolution.

APPROVED May 12, 1905.

## APPENDICES.

### APPENDIX D.

The township high school law of 1911 sought to make easier the organization of community high schools. Section six is the significant part of this law.

*AN ACT to Authorize the Organization of High School Districts.*

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly,* That any school township that contains a school district having a population of 1,000 or more and not exceeding 100,000 inhabitants, whether operating under the general school law or governed by virtue of a special Act, may be organized into a high school district by submitting the proposition to a vote of the people at a general or special election.

SEC. 2. Upon the receipt of a petition signed by fifty or more legal voters, the county superintendent of schools of the county in which the township or the greater part of the territory described in the petition is situated, shall forthwith order an election to be held for the purpose of voting "for" or "against" the proposition to establish a township high school, by posting notices for at least ten days in ten of the most public places throughout the township or territory, which notices may be substantially as follows:

#### NOTICE OF ELECTION.

Notice is hereby given that on.....the.....  
day of....., 1....., an election will be held at  
..... for the purpose of voting "for" or  
"against" the proposition to establish a township high school for the  
benefit of the inhabitants of township (or territory).....  
The polls will be opened at.....o'clock.....m., and closed.....  
o'clock.....m.

A.....B.....  
County Superintendent.

In townships divided equally by county lines, the elections shall be in charge of the superintendent of schools of the county in which the sixteenth section is situate.

SEC. 3. The elections required by this Act shall be conducted by the trustees of schools, boards of education or boards of directors, designated by the county superintendent of schools, to whom all returns shall be made within five days. The ballots shall be in substantially the following form, to wit:

For the establishment of a township high school	
Against the establishment of a township high school	

The voter shall make an X or cross-mark in the square following and opposite the proposition favored, and the ballot shall be so counted.

SEC. 4. If a majority of the votes cast shall be in favor of establishing a township high school, the county superintendent of schools shall forthwith order an election to be held within thirty days, for the purpose of selecting a township high school board of education, to consist of a president and six members, by posting notices for at least ten days in ten of the most public places throughout the township or territory, which notices may be substantially as follows:

NOTICE OF ELECTION.

Notice is hereby given that on....., the..... day of ....., an election will be held at ..... for the purpose of electing a township high school board of education, to consist of a president and six members. The polls will be opened at.....o'clock.....m., and closed at.....o'clock.....m.

A.....B.....  
County Superintendent.

Two of the members shall be elected for one year, two for two years, and two for three years, and each year thereafter two members shall be elected to serve for three years. The president shall be elected annually. All subsequent elections shall be held on the second Saturday of April, annually.

SEC. 5. For the purpose of supporting a high school, the township or territory for the benefit of which a high school is established under the provisions of this Act, shall be regarded as a school district, and the board of education thereof shall, in all respects, have the powers and discharge the duties of boards of education elected under the general school law.

SEC. 6. The inhabitants of any contiguous and compact territory, whether in the same or different townships, upon a petition signed by at least fifty legal voters and an affirmative vote in such territory, may establish, in the manner provided by this Act, a township high school for the benefit of the inhabitants of the territory described in the petition.

SEC. 7. A school district or any part thereof, adjoining a high school district organized pursuant to this Act, may be annexed to such high school district and become a part thereof, by a concurrent resolution adopted by the boards in each district. Before the resolution shall take effect, however, the proposition shall be submitted, under the provisions of this Act, to a vote of the people of the territory desiring annexation, and a majority of the votes cast shall be required in order to adopt such resolution.

SEC. 8. When any entire high school district desires to discontinue the township high school, the county superintendent, upon the receipt of a petition signed by a majority of the legal voters of the said district, shall, forthwith, order an election to be held in the manner provided by this Act, for the purpose of voting "for" or "against" the proposition to discontinue the township high school. If two-thirds of the ballots cast at the election shall be in favor of discontinuing the township high school, the county superintendent shall direct the high school board of education to discharge all outstanding obligations and to distribute the remainder of the assets of the high school district to the underlying districts and parts of districts in proportion to the assessed valuation of all the property of such districts and parts of districts: *Provided*, that an election to discontinue the township high school shall not be called within the period of two years from the establishment of such township high school, nor within a period of two years following any such election called to discontinue the township high school. When a township high school shall be discontinued by an order of any court of competent jurisdiction, the assets of the high school district shall be distributed in the manner provided by this section. (Added by an Act approved June 26, 1915.)

APPROVED June 5, 1911.

## APPENDICES.

### APPENDIX E.

#### THE GENERAL TOWNSHIP HIGH SCHOOL LAW IN ITS AMENDED FORM.

Below is given the text of the General Township High School Law as amended by the Fiftieth General Assembly in 1917, after this study was completed and in the press. In this text sections 85 to 87, inclusive, and also section 97, are omitted as they were not amended. For these sections, see Appendix B. Sections 85 to 97, inclusive, constitute the General Township High School Law. An opportunity at the last moment is offered to include the law referred to in this publication.

In the fall of 1916 the educational interests of the State were thrown into confusion by two far reaching decisions of the State Supreme Court. One of these pertained to the payment of the tuition of high school pupils living in school districts which do not maintain high schools. A law approved in 1913 had provided that the school districts should pay the tuition. In 1915 this law was repealed by the passage of another which provided that the tuition should be paid by the county superintendent out of the Distributable Fund before this fund was apportioned to the various school districts. The Township High School Law as amended in 1917 provides that all the non-high school territory in each county shall be organized into a non-high school district the function of which is to pay this tuition. The provisions regarding this non-high school district are enumerated in sections 93 to 96 of the law as printed below.

The other decision referred to invalidated the Township High School Law of 1911. It was the purpose of the law of 1911 to permit the organization of community high schools based upon compact and contiguous territory without adequate limitations of political boundaries. The educational development of the State imperatively demanded some such legislation. As stated above, however, this law was found by the Supreme Court to be drawn in unconstitutional form.

The Township High School Law, however, as amended in 1917, accomplishes the purposes aimed at in the law of 1911 much more effectively. By the provisions of this amended law the entire State becomes high school territory, either in the form of high school districts maintaining high schools or in the form of non-high school districts paying the tuition of high school pupils resident in them.

Moreover, this law provides for the formation of community high schools based upon compact and contiguous territory. In addition to that, it provides for their organization on well defined and just principles. In this study it has been found that high schools perform their

function better if (1) their territorial basis is adequate in extent to provide funds; (2) if there are sufficient prospective high school students to provide an efficient school; and (3) if all parts of the proposed district is accessible. These requirements are all incorporated in the law.

In Chapter II on the constitution of the township high school it was shown that there were eight different classes of township high schools which might be formed depending on the nature of the territorial units out of which they were formed. Six of these classes are included in this revision without change in language. Two of these—(1) the remainder of a township after a township high school has been organized, and (2) any school district—are omitted. These two are omitted for the obvious reason that they come under the provision for the organization of compact and contiguous territory into a community high school district.

The law as revised is given below with the exception that sections 85 to 87, inclusive, and also section 97, are not included here since they were in no way amended. For these sections see Appendix B. The extent of the changes made in the law may be learned by reading Appendix A in comparison with Appendix E.

*AN ACT to amend sections 88, 89, 90, 91, 92, 93, 94, 95 and 96 of an act entitled, "An Act to establish and maintain a system of free schools," approved and in force June 12, 1909, as subsequently amended, and to repeal conflicting statutes.*

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That sections 88, 89, 90, 91, 92, 93, 94, 95 and 96 of an act entitled, "An Act to establish and maintain a system of free schools," approved and in force June 12, 1909, as subsequently amended, be amended so that said sections shall read as follows:

SEC. 88. The inhabitants of any territory composed of parts of adjoining townships or of a congressional township and parts of one or more adjoining townships may create such territory into a high school district by a petition signed by at least 50 legal voters and an affirmative vote in such territory, and may elect a board of education therefor, as in other high school districts. When part of a township has been included in any high school district pursuant to any of the provisions of this act, the remainder of such township, not included in any high school district, shall constitute a township for high school purposes.

When any city in this State having a population of not less than one thousand and not exceeding one hundred thousand inhabitants lies within two or more townships, that township in which a majority of the inhabitants of the city reside shall, with the city, constitute under this act a school township for high school purposes.

When any township in any county under township organization shall contain two political towns divided by an unbridged navigable stream as recognized by the United States, each of which shall contain a city of not less than one thousand nor more than one hundred thousand inhabitants, each town shall constitute a township under this act for high school purposes.

SEC. 89. Upon the receipt of a petition signed by fifty or more legal voters residing in any compact and contiguous territory described in

said petition, whether in the same or different townships, the county superintendent of schools of the county in which the territory or the greater part thereof described in the petition is situated, shall order an election to be held for the purpose of voting "for" or "against" the proposition to establish a community high school, by posting notices for at least ten days in ten of the most public places throughout the territory described in the petition, which notices may be substantially in the following form:

### NOTICE OF ELECTION.

Notice is hereby given that on.....the.....day of ..... , 19...., an election will be held at.....for the purpose of voting "for" or "against" the proposition to establish a community high school for the benefit of the inhabitants of the following described territory: .....  
 The polls to be opened at.....o'clock....M., and closed at.....o'clock....M.

A..... B.....  
 County Superintendent.

Said community high school district shall be formed, as far as practicable, about a community center, and have sufficient territory, assessed valuation, and prospective high school pupils to form a satisfactory and efficient high school, and it shall be the duty of the county superintendent of schools before calling the election to consider the form, size, and assessed valuation of the proposed high school district and the number of prospective high school pupils in the same, and if in his judgment the proposed district does not meet the requirements heretofore specified in this section he may refer the petition back to the petitioners with recommendations as to changes before he calls the election, or he may deny the prayer of the petition. *Provided, however,* that in forming these high school districts, existing school districts shall not be divided by high school district boundaries, except where in the judgment of the county superintendent of schools of the county in which the larger part of the proposed high school district lies, it is necessary in order to make a compact and satisfactory high school district.

If a majority of the votes cast at said election shall be in favor of establishing a community high school, the county superintendent shall forthwith order an election to be held within thirty days for the purpose of electing a community high school board of education to consist of five members. The members elected shall determine by lot at the first meeting the length of term each is to serve. Two of the members shall serve for one year, two for two years, and one for three years, from the third Saturday of April next preceding their election. At the expiration of the term of office of any member or members, the successor or successors shall be elected, each of whom shall serve for three years, which subsequent election shall be held on the third Saturday in April. The manner of holding elections shall be governed by sections 126 and 126a of the General School Law. In case of a vacancy the remaining members shall fill said vacancy by appointment until

the next regular election. Within ten days after their election the members of the community high school board of education shall meet and organize by electing one of their number president and by electing a secretary. It shall be the duty of such board of education to establish at some central point most convenient to a majority of the pupils of the district a community high school providing for four years of high school work: *Provided, however*, that if a majority of the votes cast at said election shall be against the establishment of a community high school, there shall not be another election held for a like purpose for a period of one year. The expense of all elections called by the county superintendent of schools under the provisions of this act shall be paid by the county.

SEC. 90. An *ex officio* board composed of the county superintendent of schools, the county judge and county clerk, may in its discretion change the boundaries of any township or community high school districts so as:

*First*—To detach territory from one high school district and add the same to another high school district when petitioned by two-thirds of the legal voters residing within the territory described in the petition asking that said territory be detached from one high school district and added to an adjacent high school district, or when petitioned by a majority of the legal voters of each high school district.

*Second*—To create a community high school district from territory belonging to one or more high school districts when petitioned by two-thirds of the legal voters residing within the territory described in the petition asking that such territory be created into a new community high school district.

*Third*—To detach territory from a high school district and add the same to a non-high school district when petitioned by two-thirds of the legal voters residing within such territory.

*Fourth*—To annex territory not within a high school district to a high school district upon petition of two-thirds of the legal voters residing within such territory.

*Fifth*—To create a community high school district from territory belonging to one or more high school districts, together with territory from a non-high school district when petitioned by a majority of the legal voters residing within each of respective districts and non-high school territory above described.

If the districts involved in the change of boundaries lie in two or more counties, the change may be made by the concurrent action of the *ex officio* boards of said counties.

In all cases involving the change of boundary of high school districts an appeal may be taken to the Superintendent of Public Instruction, and the Superintendent of Public Instruction, on appeal, shall have authority to order a change in boundaries of all abnormal high school districts with a view of making each high school district consist of compact and contiguous territory comparatively easy of access to all the pupils of the district, and to the end that justice shall be done.

The *ex officio* board vested with power to change the boundaries of any township or community high school district shall, after the filing of any petition as provided above, give thirty days' public notice, by post-

ing in at least five public places in each district whose boundaries are to be affected, of a public hearing upon such petition, and at such hearing the *ex officio* board shall hear objections if any against such proposed change.

Within ten days after a high school district has been established under the provisions of this act or after any change is made in the boundaries of any district or districts the county superintendent of schools shall make and file with the county clerk a map of the high school district or districts established or involved in any change of boundaries.

Within thirty days of the election of the board of education of a high school district as contemplated by this act, the county superintendent of schools shall file in the office of the county clerk a transcript certified to by him showing all the steps taken and proceedings had in the organization of said high school district.

If any high school district organized under any of the provisions of this act, or organized under any statute in force at the time of its organization, or legalized by any statute, shall for one year fail to maintain a recognized high school it shall be the duty of the *ex officio* board of the county in which the larger part of the district lies to dissolve said high school district and attach the territory of the district to other high school districts, or to non-high school districts, or in part to both. All funds or property of such district shall be distributed by the county superintendent of schools as provided in section 92 of this act.

The necessary traveling expenses of the *ex officio* board shall be paid by the county.

SEC. 91. For the purpose of building schoolhouses, conducting and supporting the high school and paying all necessary expenses, the territory for the benefit of which a high school is established under any of the provisions of this act, and all high school districts organized under any statute in force at the time of their organization, and all high school districts legalized by statute, shall be regarded as school districts, and the board of education of each of said high school districts shall in all respects have the powers and discharge the duties of boards of education elected under the General School Law: *Provided, however,* that in all elections held under the provisions of this act the board of education shall have the power to establish a suitable number of voting precincts for the accommodation of voters of the district in which said election is held, and shall fix the boundaries of said precincts, and designate one polling place in each, which precincts shall be composed of contiguous territory in as compact form as may be for the convenience of the electors voting therein. Said board shall appoint two judges and one clerk for each polling place, assigning so far as practicable at least one member of such board to each polling place. Notice of all such elections shall be in the form now prescribed by law and be posted by the said board of education in at least ten of the most public places in each of said voting precincts at least ten days previous to the day of election.

SEC. 92. When the inhabitants of any township or community high school district desire to have said district discontinued, the county superintendent of schools of the county in which said district or the larger

portion thereof is situated, upon receipt of a petition signed by fifty legal voters of said district, shall forthwith order an election to be held in the manner provided in section 89 of this act for the purpose of voting "for" or "against" the proposition of discontinuing the high school named in said petition. If two-thirds of the ballots cast at said election shall be in favor of discontinuing the high school, the county superintendent of schools shall direct the high school board of education to discharge all outstanding obligations, to distribute the remainder of the assets of the high school district to the underlying school districts and parts of districts in proportion to the assessed valuation of all the property of such school districts and parts of districts: *Provided*, that the election called to vote upon the proposition of discontinuing a high school shall not be called within the period of two years from the establishment of such high school district, nor within a period of two years following any such election called to vote upon the proposition of discontinuing such high school. When a high school shall be discontinued by order of any court of competent jurisdiction the assets of said high school district shall be distributed in the manner provided by this section.

SEC. 93. In each county of the State, all the territory of the county not included in a township high school district, or a community high school district, or a district maintaining a recognized four year high school, shall be organized into a non-high school district for the purpose of levying a tax to pay the tuition of all eighth grade graduates residing in such non-high school district, including pupils attending a recognized two or three year high school conducted by a local school district. The board of education for said non-high school district shall be constituted as follows: The county superintendent of schools shall be an *ex officio* member of said board and secretary thereof but he shall have no vote. The remaining members of the non-high school district board shall be elected as follows: On or before August 1, 1917, the county superintendent of schools shall call an election for the purpose of electing three members of the board of education of said non-high school district, and shall designate a sufficient number of precincts and polling places and select the judges and clerks for such election. At the first meeting of said board the length of the term of each of the said three elected members shall be determined by lot. One of said members shall serve for one year, one for two years, one for three years from the third Saturday of April next preceding their election. At the expiration of the term of office of any elected member or members a successor or successors shall be elected, who shall serve for three years. Each subsequent election shall be held on the third Saturday in April. In case of a vacancy in the said board of education the remaining members shall fill the vacancy by appointment until the next annual election. Within ten days after the election the members of said board of education shall meet and organize by electing one of their number president. The nomination of candidates for members of the board of education for the non-high school district shall be made only by petition. All nominating petitions shall be filed with the county superintendent of schools at least fifteen days before the date of election. All petitions shall be signed by at least fifty legal voters of the district. The names of the candidates shall be printed on the ballot in the order in which the petitions are filed with the county

superintendent of schools. The first election for members of the board of education for the non-high school district shall be held at the polling places of the district comprising the non-high school territory and the judges and clerks of the district election boards shall receive and canvass the ballots and seal and mail them to the county superintendent of schools. The county superintendent of schools shall file the results of said election with the county clerk. The ballots to be used at the election held for the selection of members of the board of education of the non-high school district shall be furnished by the county and shall be in the form prescribed by the county superintendent of schools. Voters shall make a cross mark in the square preceding the name or names of the candidates of his choice and the ballots shall be so counted. At all subsequent elections in the non-high school districts the vote shall be canvassed by the non-high school board and the results filed with the county clerk. The polling place for subsequent elections in the non-high school district shall be designated by the board of education of the non-high school district. The manner of holding elections shall be governed by sections 126 and 126a of the General School Law, except where otherwise specifically directed herein.

None of the provisions of this act regarding the establishment of non-high school districts shall be construed to prevent the organization of any territory of such non-high school districts, into township or community high school, school districts.

SEC. 94. The board of education of a non-high school district shall have the following powers and it shall be its duty:

*First*—To levy a tax annually upon all the taxable property of such nonhigh school district, not to exceed one per cent upon the valuation to be ascertained by the last assessment for State and county purposes, for the purpose of paying the tuition of all eighth grade graduates residing within such non-high school district, attending any two, three or four year recognized high school. Such tax levy shall be certified and returned to the county clerk on or before the first Tuesday in October. The certificate shall be signed by the president and secretary of the board and may be in the following form, to wit:

CERTIFICATE OF TAX LEVY.

We hereby certify that we require the sum of.....dollars to be levied as a special tax to pay the tuition of graduates of the eighth grade residing in the non-high school district of..... county on the equalized assessed valuation of the taxable property of our non-high school district.

Signed this.....day of....., 19....  
 A..... B....., President.  
 C..... D....., Secretary.

A failure to certify and return the certificate of tax levy to the county clerk in the time required shall not vitiate the assessment.

*Second*—To issue orders on the county treasurer on or before the first Tuesday of May of each year for the payment of the tuition of eighth grade graduates residing within such non-high school district attending a recognized high school, provided such attendance shall be certified to said board by the board of education of the high school

attended. Such orders shall be payable out of any funds belonging to said non-high school district.

*Third*—To make such reports as may be required by the State Superintendent of Public Instruction and by the county superintendent of schools.

*Fourth*—To pay election expenses and other necessary incidental expenses out of the funds of the non-high school district.

SEC. 95. The county treasurer shall be the treasurer of the non-high school district of the county. He shall receive and hold all moneys belonging to said district and shall pay out the same upon lawful orders issued by the board of education of said non-high school district. He shall report to the secretary of the board of education of the non-high school district on or before the thirtieth day of June annually the receipts and expenditures of funds belonging to said district and the balance on hand. He shall make annually a complete report to the county superintendent of schools, including therein whatever statistics may be required by the county superintendent and shall perform such other duties in connection with the non-high school district as are performed by the township treasurers for school districts as required by the General School Law.

SEC. 96. Upon the approval of the county superintendent of schools any high school pupil may attend a recognized high school more convenient in some district other than the high school district in which he resides and the board of education of the high school district in which said pupil resides shall pay the tuition of such pupil, *provided*, said tuition shall not exceed the per capita cost of maintaining the high school attended.

Any eighth grade graduate residing in a non-high school district may attend any recognized two, three or four year high school, and his tuition shall be paid by the board of education of the non-high school district in which he resides.

An eighth grade graduate in the meaning of this act is any person of school age who gives satisfactory evidence of having completed the first eight grades of school work by presenting a certificate of promotion issued by the home school board, or by passing an examination given by the county superintendent of schools or by passing an examination given by the school attended.

A recognized high school in the meaning of this act is any public high school providing a course of two or more years of work approved by the Superintendent of Public Instruction.

The tuition paid shall in no case exceed the per capita cost of maintaining the high school attended, excluding therefrom interest paid on bonded indebtedness, which shall be computed by dividing the total cost of conducting and maintaining the said high school by the average number of pupils enrolled including tuition pupils.

SEC. 2. An Act entitled, "An Act to provide high school privileges for graduates of the eighth grade," approved June 26, 1913, in force July 1, 1913, and all other acts and parts of acts in conflict with this amending act are hereby repealed.

APPROVED June 22, 1917.

## APPENDICES.

### APPENDIX F.

#### HIGH SCHOOL DISTRICTS VALIDATED.

When the Township High School Law of 1911 was declared unconstitutional in the fall of 1916 many high schools had been organized under it. These schools were in all stages of development. Some were fully organized with building and complete equipment; others had only sold bonds for the purpose of buying a site and erecting a building. The decision of the court left them without legal status except as they might exist as de facto high schools. The Fiftieth General Assembly passed a law to validate these districts. This law is as follows:

AN ACT to legalize the organization of certain high school districts.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That in all cases where a majority of the inhabitants of any contiguous and compact territory voting on the proposition, having voted at any election called for the purpose by a county superintendent of schools in favor of the organization of such territory into a high school district, and when at a subsequent election similarly called and held a board of education has been chosen for such district, each such election is hereby made legal and valid and such territory is hereby declared legally and validly organized and established as a high school district, and a valid and existing school district and body politic and corporate of this State for the purpose of establishing and maintaining a high school. The board of education acting for each such district is hereby declared to be the duly constituted corporate authority thereof, and each such board shall hereafter consist of a president and six members, and shall be elected and organized in the same manner and have the powers and discharge the duties of boards of education of school districts as provided by sections 123, 125, 126, 126a and 127 of an act of the General Assembly of the State of Illinois entitled, "An Act to establish and maintain a system of free schools." approved June 12, 1909, as said sections now exist or may from time to time be amended.

SEC. 2. All acts and proceedings heretofore done, had or performed by each such district and the persons from time to time elected and acting as the board of education thereof, such as are authorized to be done, had or performed by school districts or boards of education thereof by the general school laws of this State are hereby declared to be legal and valid in all respects.

SEC. 3. Whenever there are two such districts which overlap in territory, that district which shall have first established and now continues to conduct a high school, is hereby validated and confirmed.

SEC. 4. All pending actions attacking the organization of districts coming under the provisions of this act shall abate.

SEC. 5. The invalidity of any section of this act shall not affect the remainder thereof.

SEC. 6. WHEREAS, an emergency exists, therefore this act shall be in full force and effect from and after its passage and approval.

APPROVED and in force June 14, 1917.





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