DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 68

FINANCIAL AND BUILDING NEEDS OF THE SCHOOLS OF LEXINGTON, KENTUCKY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1919

ADDITIONAL COPIES

OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
10 CENTS THE COPY

CONTENTS.

LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, September 25, 1919.

SIR: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a partial survey of the schools of the city of Lexington, Ky. This has been made under my direction at the request of the board of education and the superintendent of schools of the city of Lexington.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.

LETTER TO THE BOARD OF EDUCATION AND SUPERINTENDENT OF SCHOOLS.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, September 25, 1919.

To the Board of Education and the Superintendent of Schools, Lexington, Ky.:

I am transmitting herewith, with my approval, the report of the committee appointed by me at your request to make a study of the financial and building needs of the public schools of Lexington.

The report shows that there is immediate and urgent need for new permanent buildings, temporary or movable buildings, and repairs, which, at present prices of material and labor, will cost not less than $400,000, and that there will in the immediate future be need for other permanent buildings to house the rapidly increasing school population of the city. The report also shows clearly the need for considerable increase in the budget for current expenses, because of the increase in school population and the absolute necessity for increase in the pay of teachers and janitors to prevent lowering of standards and degeneration in the quality of work, and to make possible the constant improvement in the efficiency of the schools which the people of Lexington and the welfare of city, State, and Nation demand.

The facts presented in Chapter I of the report indicate that this increase in the annual budget for the schools can be made without imposing an unusual burden on the taxpayers of the city.

It should require no argument to induce the people of Lexington to respond promptly and fully to all these needs. The mere presentation of the facts should be sufficient. They know the value of education for individual welfare and happiness, good citizenship, and material prosperity. Their children are their first interest. All they have they would gladly give for their safety and welfare. All the wealth of the present generation which they do not themselves consume will be used by or for their children, or left to the children when their parents are gone. It is only a question of whether it shall be wisely used now for the health and comfort of the children and for their better education and preparation for

life, or whether it shall finally be left for the doubtful use of those to whom these vital things have been denied in their childhood.

To pay for the new buildings herein recommended and to make the necessary repairs on the old buildings will require an issue of bonds which is, I understand, now contemplated. There are no doubt in Lexington some who will oppose this use of bonds on the plea that a city should not incur debt, but should pay as it goes, and do without the things for which it can not pay cash. And, indeed, no city, county, or State should, barring cases of great emergency, issue bonds on the future except for such purchases or improvements as will be of permanent benefit, a policy which has generally been followed in this country.

If, however, bonds may justly be used for any purpose whatever by the people of one generation to be paid by those of another, surely the building of schoolhouses is such a purpose. When we issue bonds to pay for streets, roads, bridges, sewerage systems, courthouses, city halls, or houses and equipment for fire departments, we ourselves get the benefit of these, and when streets, roads, bridges, and sewerage systems are worn out and must be replaced or repaired and the courthouses, city halls, and equipment for fire departments are outgrown, our children pay for what we have used and probably used up. But when we issue bonds to build good schoolhouses for our children, they themselves get the benefit of what they must later pay for. By issuing bonds for this purpose we only enable them to borrow from their future richer selves to provide themselves now with that which is essential to their welfare but which we feel ourselves too poor to give them out of our own pockets. It would seem hardly probable that the thoughtful, large-hearted men and women of Lexington will deny to the children this right to live under more comfortable and sanitary conditions during their school days, and to have the equipment necessary to enable them to use these school days to best advantage in preparing themselves for productive occupations and for the duties and responsibilities of citizenship and life.

Yours, sincerely,

P. P. CLAXTON,
Commissioner.

FINANCIAL AND BUILDING NEEDS OF THE SCHOOLS OF LEXINGTON, KY.

INTRODUCTION.

Upon the request of the Board of Education of Lexington, Ky., the United States Commissioner of Education detailed three of the Bureau of Education specialists to make an analysis of the financial and building needs of the school department of that city. Those making the study were:

Frank F. Bunker, *Specialist in city school systems, director.*
Alice Barrows Fernandez, *Specialist in social and industrial problems.*
Fletcher B. Dresslar, *Specialist in school architecture, sanitation, buildings, and equipment.*

This report falls into three parts:

Chapter I. Financing the school department of Lexington, Ky.
Chapter II. An analysis of the building problem.
Chapter III. The care of buildings and of equipment.

Chapter I.

FINANCING THE SCHOOL DEPARTMENT OF LEXINGTON.

1. THE PROPORTIONATE AMOUNT WHICH LEXINGTON EXPENDS UPON HER SCHOOLS.[1]

In 1917 on every $1,000 worth of property valuation property owners in the city of Lexington paid $17.50 to the city, $5.50 to the State, and $5 to the county, making a total for the year of $28 per thousand. Of the amount collected the city expended the sum of $509,803, or $12.40 per capita of population (see Census Bureau, Table No. 13) on its several departments, including the schools. It will be instructive to see how this amount of $12.40 per capita was

[1] In order that comparisons among cities of Lexington's population group can be made, the latest published figures are taken, i. e., of the fiscal year 1917, as compiled by the U. S. Census Bureau and published under the title, "Financial Statistics of Cities Having a Population of over 30,000. (1917.)"

distributed and to learn what proportion went to the schools, and also to learn what 90 other cities with between 30,000 and 50,000 population (Lexington's group) did similarly with their city incomes.

The table which follows shows how the schools of Lexington fare in comparison with the police department, the fire department, the street department, and the other important departments of Lexington's city government in the division of the $12.40, and it also shows how Lexington compares in this distribution with the average of the cities of her class, 91 in all.

Distribution of city expenditures (1917).

Purposes.	Lexington.	Average of 91 cities.
General government	$1.41	$1.19
Police department	1.36	1.20
Fire department	2.04	1.49
Conservation of health	1.10	1.31
Street department	1.45	1.76
Charities, hospitals, and corrections	.79	.51
The schools	*5.66*	*5.43*
Libraries	.15	.21
Recreation	.26	.43
All other purposes	.18	.45
Total per capita expenditure	12.40	13.97

While this table helps us to see where Lexington stands in relation to her own departments and also how she compares with the average expenditure of the 91 cities of her class, yet, because her total expenditure is less than the average expenditure of her group, another table is needed to make her rank in these matters perfectly clear, and that is a table showing the proportion each item bears to the entire expenditure. This table follows:

Proportionate expenditures among city departments.

Purposes.	Lexington.	Average of 91 cities.
	Per cent.	*Per cent.*
General government	11.4	8.5
Police department	10.9	8.6
Fire department	16.5	10.6
Conservation of health	8.8	9.4
Street department	11.7	12.6
Charities, hospitals, and corrections	6.4	3.6
The schools	*39.5*	*38.9*
Libraries	1.2	1.5
Recreation	2.1	3.1
All other purposes	1.5	3.2

It is apparent from this table that, as compared with the cities of her class, Lexington's chief interest is in her general government, in her police department, her fire department, and in her department having to do with charities, hospitals, and corrections. Her interest in

her streets, in health, in libraries, and in recreational activities is somewhat less than that of the average of the 91 cities of her group, while her interest in her schools, if the proportionate distribution of her funds is an indication, lags very far behind the average of her group. Less than three-tenths of Lexington's income goes to her schools, while the average expenditure for the schools of 91 cities of Lexington's population group is greater by nearly one-tenth of their respective aggregate incomes. Putting this fact another way, Lexington's proportionate expenditure for her schools would have to be increased almost one-third (31.9 per cent) to bring her rank up to the average only of the 91 cities of her group.

An examination in detail of each of the cities of the list discloses that there are 20 cities, among them being Lexington, in which the schools receive less than one-third of the municipal income; that in 57 cities the schools' share ranges from one-third to one-half the aggregate income; and that in 13 cities the proportion going to the schools is greater than one-half the entire income.

It will be of interest to know the names of the cities taking a one-third interest in their schools or less; also to know in what cities the interest in the educational activities rises to a level with or tops that expressed in the aggregate of their departments of the cities' activities.

Cities which expend one-third or less of their incomes on their schools.

Cities.	Proportion of incomes expended on schools.	Cities.	Proportion of incomes expended on schools.
	Per cent.		*Per cent.*
Lexington, Ky	29.5	Portsmouth, Va	32.3
Salem, Mass	26.0	Auburn, N. Y	29.7
Haverhill, Mass	31.4	Niagara Falls, N. Y	28.4
Chelsea, Mass	33.0	Shreveport, La	24.9
Macon, Ga	23.4	Columbia, S. C	20.3
Woonsocket, R. I	28.0	Lynchburg, Va	25.7
Montgomery, Ala	24.1	Brookline, Mass	23.3
Butte, Mont	25.3	Waltham, Mass	28.1
Galveston, Tex	21.3	Newport, R. I	26.2
Fitchburg, Mass	27.1	Wilmington, N. C	23.6

Cities which expend one-half or more of their incomes on their schools.

Cities.	Proportion of incomes expended on schools.	Cities.	Proportion of incomes expended on schools.
	Per cent.		*Per cent.*
Kalamazoo, Mich	52.3	Waterloo, Iowa	54.0
Lincoln, Nebr	54.1	Everett, Wash	56.2
West Hoboken, N. J	50.5	Bellingham, Wash	63.7
New Castle, Pa	51.1	Kenosha, Wis	50.1
Decatur, Ill	50.8	Council Bluffs, Iowa	54.0
Cedar Rapids, Iowa	56.4	Norristown, Pa	60.6

2. LEXINGTON'S PER CAPITA EXPENDITURE ON SCHOOLS, COMPARED WITH CITIES OF HER CLASS.

The foregoing ranking is based on the proportionate expenditure for schools among the several municipal departments of the cities considered. It will be of interest to learn where Lexington stands in relation to the same cities in amounts, derived from city income, actually expended in money.

Again referring to the Census Bureau's figures (Table 13), we find that Lexington expended from city sources on her schools $3.66 per capita of population. Examining the same list of cities again, it is seen that 16 only expended this amount or less; 20 cities expended from $3.67 to $5 per capita; 44 cities expended from $5 to $7.32; while 11 expended $7.32 or more, i. e., twice, or more, the expenditure of Lexington. The names of the cities having the distinction of being in these two extreme groups follow:

Cities which expended on their schools from city income the same as (or less than) Lexington.

Cities.	Amount expended on schools per capita population.	Cities.	Amount expended on schools per capita population.
Lexington, Ky	$3.66	Portsmouth, Va	$2.30
Macon, Ga	3.07	Amsterdam, N. Y	3.33
Muscogee, Okla	3.06	Shreveport, La	2.90
Woonsocket, R. I	3.09	Columbia, S. C	2.47
Montgomery, Ala	2.16	Lynchburg, Va	3.61
Roanoke, Va	3.20	Newport, Ky	3.04
Charlotte, N. C	3.05	Winston-Salem, N. C	2.95
Norristown, Pa	3.65	Wilmington, N. C	2.31

Cities expending on their schools from city income double the amount of Lexington or more.

Cities.	Amount expended on schools per capita population.	Cities.	Amount expended on schools per capita population.
Pasadena, Calif	$10.06	Mount Vernon, N. Y	$9.82
Lincoln, Nebr	8.33	Fresno, Calif	8.33
Newton, Mass	10.63	Stockton, Calif	8.22
East Orange, N. J	8.25	Brookline, Mass	8.96
New Rochelle, N. Y	7.70	Madison, Wis	7.94
Cedar Rapids, Iowa	8.87		

As we have seen, Lexington expended an aggregate from city sources for all purposes of $12.40 per capita of population. There were 43 cities of the list expending less than this amount and 47 expending more. We have also seen that only 15 cities expended less

than Lexington did on her schools and that 75 cities expended more. It is clear, then, that while she ranks No. 44 from the bottom in the total amount expended for all purposes she ranks No. 16 from the bottom in the amount expended on education.

3. LEXINGTON'S TAX RATE.

The tax rate of a city always attracts the attention of the taxpayers, but there is an important fact about a tax rate which the taxpayer does not always take into account.

Referring once more to the Census Bureau's figures, this time turning to Table 32, we find that the property owner of Lexington paid for all purposes in 1917 a tax of $28 on every $1,000 of assessed valuation. Running over the list of 91 cities again, with Lexington's relative place in mind, we find that 58 cities paid at a less rate, while 33 paid at a higher rate. If this alone were taken into account, it might seem that Lexington's rate was well above the average of the cities of the list. But the same table shows that, upon the statement of city officials, the assessment roll is only about 60 per cent of the true valuation of the property. Inasmuch, then, as many cities of the list assess at 100 per cent of value and others at only 25 per cent, obviously a fair comparison of rates requires that they all be corrected on the basis of a 100 per cent valuation. When this correction is made then Lexington's rate, instead of appearing as $28 per thousand, is found to be $16.96 per thousand.

Now, when the comparison among the cities is made (all corrected in the same way), it is found that the situation is reversed, for there are only 35 cities having a lower corrected rate, while 55 cities have a higher rate.

4. LEXINGTON'S TAXABLE WEALTH.

The Census Bureau, referring again to Table 32, gives the true value, as estimated by city authorities, of the property of the 91 cities in Lexington's group, which is subject to a general property tax. This estimate is given in terms of per capita of population, so that a comparison on exactly the same basis among the cities can easily be made.

The facts are that Lexington, with a per capita true value of $1,228, as stated therein, exceeds the average of the 91 cities of her group by $84 and that only 27 cities of the group have a higher per capita property value, while in 63 cities the value of the taxable property is less.

The question naturally arises as to what the cities of this list having less taxable wealth than Lexington and which, in consequence, are less able to support their schools, are actually doing for

education in comparison with Lexington. The following table gives the true valuation of taxable property per capita of population, also the amount expended from city sources on their schools of cities having less wealth than Lexington:

Per capita value of taxable property in Lexington and other cities of less taxable wealth—Per capita expenditures for schools from city sources.

Cities.	True per capita value taxable property.	Amount expended on school per capita population.
Kalamazoo, Mich	$967	$5.93
Salem, Mass	897	4.09
Haverhill, Mass	959	5.54
Bay City, Mich	557	6.00
McKeesport, Pa	928	5.25
Huntington, W. Va	1,098	4.15
Chelsea, Mass	674	4.95
Superior, Wis	1,031	5.52
Macon, Ga	932	3.07
Muskogee, Okla	771	3.06
Woonsocket, R. I	730	3.09
Montgomery, Ala	934	2.16
West Hoboken, N. J	605	5.28
Lansing, Mich	979	5.30
Fitchburg, Mass	1,005	5.36
Chester, Pa	776	4.39
Perth Amboy, N. J	571	6.19
New Castle, Pa	900	5.11
Lexington, Ky	*1,228*	*5.66*
Springfield, Mo	875	4.43
Hamilton, Ohio	1,130	4.50
Decatur, Ill	1,015	5.52
Dubuque, Iowa	986	4.16
Portsmouth, Va	684	2.30
Everett, Mass	858	5.88
San José, Calif	1,103	7.02
Pittsfield, Mass	1,050	6.94
Knoxville, Tenn	925	4.37
Elmira, N. Y	844	6.22
Joliet, Ill	942	6.47
Auburn, N. Y	720	4.34
Niagara Falls, N. Y	1,149	5.70
Amsterdam, N. Y	719	3.33
Lorain, Ohio	1,208	4.28
Jamestown, N. Y	935	5.57
Taunton, Mass	739	5.24
Oshkosh, Wis	928	5.24
Waterloo, Iowa	1,010	5.74
Fresno, Calif	1,052	8.38
Everett, Wash	783	6.14
Lima, Ohio	1,127	4.24
Jackson, Mich	1,056	5.28
Austin, Tex	919	4.32
Boise, Idaho	858	5.36
Aurora, Ill	1,219	5.23
Williamsport, Pa	711	4.87
Joplin, Mo	840	4.73
Orange, N. J	608	6.55
Bellingham, Wash	810	5.99
Colorado Springs, Colo	1,095	7.03
Danville, Ill	1,225	5.13
Kenosha, Wis	1,116	6.30
Newport, Ky	676	3.04
La Crosse, Wis	863	6.03
Councils Bluffs, Iowa	921	6.08
Tulsa, Okla	1,002	6.21
Ogden, Utah	1,003	6.27
Norristown, Pa	853	3.65
Stamford, Conn	1,180	6.93
Zanesville, Ohio	997	3.87
Waltham, Mass	1,052	4.93
Easton, Pa	1,076	4.91
Poughkeepsie, N. Y	1,192	5.28
Wilmington, N. C	1,068	2.31

The foregoing table shows the striking and significant fact that, whereas every one of the 63 cities listed is poorer than Lexington in taxable property, all but 9 are expending more of the money derived from city sources on the education of their children than is Lexington. These 9 follow:

The only cities having a lower property valuation expending less than Lexington on their schools.

Cities.	Property value per capita population.	Amount expended on schools per capita.
Lexington, Ky	$1,228	$3.66
Portsmouth, Va	684	2.30
Amsterdam, N. Y	719	3.33
Newport, Ky	676	3.04
Norristown, Pa	853	3.65
Wilmington, N. C	1,088	2.31
Macon, Ga	932	3.07
Muskogee, Okla	771	3.06
Woonsocket, R. I	730	3.09
Montgomery, Ala	934	2.16

5. LEXINGTON'S INVESTMENT IN SCHOOL BUILDINGS AND HER BONDED INDEBTEDNESS.

Once again there is clear evidence that Lexington has been a laggard in her group of cities for, in providing physical equipment for the education of her children, the value of the permanent investment she has made in buildings, land, and equipment for school purposes reached, in 1917, only $379,468, whereas the average investment of the cities of her class in these items was $897,890. That is to say, if Lexington immediately doubled her 1917 investment in land and buildings and then added one-third more to it, she would just reach the average investment made by the cities of her class in school buildings, land, and equipment. The proposed bond issue of $400,000 to be invested in land and buildings, if added to the 1917 school valuation, would still leave Lexington $117,000 short of the average of the 91 cities of her group. Only 3 cities out of the 91 have less invested in their schools than Lexington (1917 figures). These cities are Portsmouth, Va., $276,000; Winston-Salem, N. C., $318,612; and Amsterdam, N. Y., $379,346. In the matter, then, of her investment in her schools Lexington is seen to stand No. 4 from the bottom of the list of 91 cities. She misses being No. 3 by only $123.

Naturally when plans are being made for bond issues and for increasing the operating expenses of a city, the outstanding obligations of the city should be taken into account. In this particular, again, Lexington is seen to be much below the average of the cities of her

class. Table 28 of the Census Bureau's *Financial Statistics of Cities* shows that the net debt of the city of Lexington at the close of 1917 was $30.72 per capita of population, whereas the average per capita debt for the 91 cities of Lexington's group was $41.55. In a third of the cities only was the net debt less than that of Lexington. Were Lexington, therefore, to increase her 1917 indebtedness 35.2 per cent, she would then have merely reached the average indebtedness of her group.

As to Lexington's outstanding bonded indebtedness for school buildings, she is again very much below the average of the cities of her class. In 1917 the school bonds outstanding in Lexington amounted to $236,000 (see Table 29, Census Bureau, *Financial Statistics of Cities*). The average for the cities of Lexington's class was $401,770. Only 26 cities of the list had a smaller unpaid debt for school buildings, while 64 had a greater bonded indebtedness.

6. LEXINGTON'S ACCOMPLISHMENT IN SPITE OF HANDICAPS.

Despite these financial handicaps, however, the survey commission has been surprised at every turn to see what has been accomplished in Lexington in laying the foundations of a progressive school system. And particularly was it struck by the fact that Lexington, in contrast to many cities of the South, has made no discrimination in its school facilities between the whites and Negroes. It is evident that a sincere attempt is being made to put into effect that wise provision of the Kentucky law:

> "Colored schools shall be entitled to the same benefits; be governed by the same rules and regulations, and be subject to the same restrictions as the schools herein provided for the white children."

Open-air schools; the penny lunch; a community center school with swimming pool, showers, and auditorium; manual training and domestic economy in the fifth and sixth grades of all schools; rest rooms for anemic and poorly nourished children; opportunity classes in some of the schools for irregular children; a junior high-school organization throughout; kindergartens in all white schools and in some of the Negro schools; laundries in the basements of schools for the use of both children and parents; moving-picture apparatus in some schools; the opening of the buildings to the uses of citizens; and, for the most part, clean and well-kept buildings are some of the things which belong in progressive school systems and which the school authorities of Lexington have secured in the face of a very meager school income. Thus again the statement is vindicated that vision and good management go far toward compensating for a thin purse.

7. SALARIES OF SCHOOL EMPLOYEES.

While the school department, handicapped as it has been for lack of maintenance, has done admirably in incorporating in her school organization those special activities which have won a place in every progressive school system, nevertheless it must be said frankly that many of these features have come at the expense of the salaries of the corps of school employees. In many of the activities of the department more money is required, but in no place is it more needed than in rendering the financial condition easier under which the various groups of school employees are working. An examination of the salary schedule now in effect follows:

Annual salary schedule of school employees (1919).

Superintendent of schools	$3,000
Secretary and business director	2,200
Assistant to secretary	600

Kindergartens ("Primary Circles").

Principals	700
First assistants	500–600
Second assistants	450–550

Elementary Schools (white).

Principals:	
Harrison, Johnson, Dudley, Maxwell, and Ashland Schools	1,300
Lincoln School	1,250
Arlington School	1,200
Teachers:	
First and second grades	550–700
Third, fourth, fifth grades	550–750
Sixth grade	550–800
Substitutes	400

Elementary schools (colored).

Principals:	
Constitution School	1,000
Patterson School	900
Booker Washington School (principal supervises manual training)	1,000
Teachers:	
First, second, third, and fourth grades	450
Fifth, sixth, seventh, and eighth grades	500
Substitutes	300

High schools (white).

Principals:	
Senior High School	2,000
Assistant principal	1,050
Junior High School	1,000
Teachers:	
Senior High School	900
Junior High School	800

High schools (colored).

Principal Russell School	$1,400
Teachers	550

Supervisors and special teachers (white schools).

Supervisor manual training	1,100
One first assistant	800
One second assistant	700
One second assistant	650
One second assistant	550
Supervisor domestic science	1,100
First assistants	800
Second assistant	650
Supervisor of music	1,100
Assistant	500
Director of orchestra	300
Supervisor physical training	950
Assistant	700
Pianist	400
Pianist	300
Supervisor of drawing	900
Assistant	650

Supervisors and special teachers (colored schools).

Assistant manual training	450
Supervisor domestic science	550
Assistants	450
Supervisor of music	600

Special officers.

Truant officer	1,100
Assistant (colored)	450
Supervisor penny lunch	100
Supervisor detention home	150
School carpenter	1,000

Janitors.

Senior High School, with two assistants	1,600
Junior High School	1,300
White elementary schools:	
Harrison, Dudley, Johnson, Maxwell, and Ashland Schools	800
Lincoln School—	
One	700
One	850
Arlington School	600
Colored schools:	
Russell School	550
Constitution School	500
Patterson School	450
Booker Washington School	600

THE TEACHERS' SALARY SCHEDULE.

It will be observed that, according to the foregoing schedule, elementary white teachers are receiving salaries ranging from $550 to $800; the teachers of the junior high school, $800; and the teachers of the senior high school, $900. Negro teachers receive much less, $450 and $500 in the case of elementary teachers and $550 in the case of high-school teachers. A comparison of these salaries with the schedule of even other southern cities, which in turn are much below cities of the West and North in salaries paid, shows that it is high time that Lexington revise her schedule. The following table shows how far Lexington is below southern cities in this matter:

Salaries of teachers in southern cities.

Cities.	Elementary teachers.	High-school teachers.
Memphis, Tenn	$720-$1,140	$1,140-$1,440
Charleston, S. C	450	738
Columbia, S. C	600- 900	1,260
Nashville, Tenn	495- 855	881- 1,530
El Paso, Tex	720- 1,000	1,000- 1,200
Galveston, Tex	510- 945	850- 1,275
Houston, Tex	450- 1,080	900- 1,200
San Antonio, Tex	720- 1,050	1,050- 1,605
Waco, Tex	600- 810	845- 1,600
Lynchburg, Va	550- 850	750- 1,050
Richmond, Va	600- 1,015	700- 1,400
Roanoke, Va	450- 765	720- 1,205
Wheeling, W. Va	855- 1,000	1,200- 1,600
Birmingham, Ala	540- 900	800- 1,800
Montgomery, Ala	630- 810	810- 1,800
Atlanta, Ga	660- 900	900- 1,725
Augusta, Ga	480- 1,020	1,000- 1,800
Savannah, Ga	495- 945	650- 2,200
Newport, Ky	500- 865	800- 1,350
Louisville, Ky	550- 900	750- 2,000

A comparison of the salary schedule for Lexington school employees with the schedules of other city and Federal employees of Lexington discloses the following interesting facts:

Some Lexington teachers are receiving less salary than are street hands, policemen, and firemen.

The principals of the schools receive only as much as first-grade patrolmen and firemen, while in instances street hands at $78 to $104 a month actually get more money than some of the principals and in almost all cases more than the highest-paid grade teachers.

In the revenue and postal service there are none paid less than teachers except the janitors, for the clerks and carriers receive from $1,000 to $1,500 per year and the revenue clerks and other officials even better pay.

To quote a statement of a Lexington citizen on this comparison:

If an educated man comes to Lexington to live, it would actually pay him to become a policeman or a fireman rather than a teacher; or he might get a job with McCorkle as a street hand and do almost as well. If he got to

be a foreman of street hands, he would do even better, for they get $5 a day.

Commissioner Wood Dunlap's park employees receive $10 a month more than teachers entering the profession who are paid $55 a month. Park policemen receive $27.50 per month more than these teachers.

It is little wonder when one takes a square look at the figures that there are only two men in the teaching corps in Lexington, and one of these is the superintendent of schools.

A compensation which can be considered adequate for a teacher must cover the following items at least: (1) Clothing and subsistence; (2) medical and dental care; (3) life insurance; (4) family support or support of dependents; (5) social and professional growth; (6) incidentals; (7) establishing a reserve.

To meet these needs and also to make certain that teachers shall constantly make the effort to improve themselves and when made that this effort shall be given a tangible reward in terms of salary, the following salary schedule is prepared as a goal which Lexington should earnestly seek to reach at the earliest possible moment:

Proposed teachers' salary schedule.

Teachers.	Length of time of appointment (years).	Salary schedule for each group.				Yearly salary increase.	Year in which group maximum can be reached.
		Elementary.		Secondary.			
		Minimum.	Maximum.	Minimum.	Maximum.		
1. One-year teachers (probationary)	1	$1,000	$1,150	$1,200	$1,350	$75	Third.
2. Three-year teachers	3	1,225	1,375	1,425	1,575	75	Do.
3. Five-year teachers	5	1,450	1,650	1,650	1,850	50	Fifth.
4. Permanent teachers	(1)	1,700	2,000	1,900	2,200	50	Seventh.

[1] Until retired.

When the maximum of each group is reached, the following alternative courses should be open to the board of education:

1. Termination of the contract (permissible each year in group No. 1).
2. Reappointment annually at the group maximum.
3. Promotion to the next higher group.

The promotion from group to group beyond that of the three-year teachers should be granted only to those who have shown special merit and have given evidence of valuable professional study. To satisfy the latter condition the board might require the candidate for promotion to spend a year in study at some recognized college or university, or a year in teaching in some good school system in another part of the country, or perhaps a year in study and travel combined. In this connection a system of exchanging teachers might easily be established between Lexington and other cities to their mutual advantage.

THE SALARY OF NEGRO TEACHERS.

It seems to us that, in arranging a schedule of salaries for Negro teachers, account should be taken of the qualifications required for

admission to the corps and of retention therein. If, in matters of education, professional training, and experience Negro teachers are held to the same requirements as are the white teachers, then we can see no good reason for paying them at a less rate. At present it is true that, in Lexington, as with most places where Negro teachers are employed, the standard required of Negro teachers is lower than that for white teachers, which fact of course justifies a difference in the rates paid just as the difference in the qualifications required of elementary white teachers and of high-school white teachers justifies a difference in their schedules. As rapidly as well-trained teachers are available, however, the standards demanded of Negro teachers, as well as of white teachers, should be raised. When this is done the staff would recommend that the foregoing salary schedule be made operative for both and that both be made eligible to the same promotions each within his own field of activity.

A PLAN FOR FIXING THE SALARIES OF JANITORS.

For 15 years or more Boston has had a plan for determining the schedule of salaries for janitors, which has worked satisfactorily and which has been adopted widely. According to this plan compensation is allowed on five items: (1) Cleaning; (2) heating, ventilating, and superintendence; (3) washing of windows; (4) care of yards and sidewalks;; (5) care of lawns.

In fixing compensation for cleaning, the cubic contents of a building are computed in accordance with the rule of the National Association of School Accounting and Business Officials, and indorsed by the American Institute of Architects. Compensation, based on this item, is reckoned at the rate of 4 mills for the first 10,000 cubic feet; 3.8 mills for the second 10,000 cubic feet; 3.6 mills for the third 10,000 cubic feet, and so on as per schedule up to the total cubic contents of the building.

In fixing compensation for the second item, "Heating, ventilation, and superintendence," the cubic contents of the building is also used as a basis except that buildings are classified into three groups depending upon the type of heating system used, some requiring more attention and skill than others. For "Class A" buildings the compensation runs 5 mills for the first 10,000 cubic feet, 4.7 mills for the next 10,000 cubic feet, and so on, as with the item of "cleaning." The heating, ventilation, and superintendence of "Class B" and "Class C" buildings are compensated for at a lesser rate.

Compensation for "washing of windows," the third item, shall be on the basis of the total area of the sashes and at the rate of 5.5 mills per square foot for one washing on both sides. Additional washing per year when ordered by the board shall be at the same

rate, which also applies to all windows, transoms, doors, and doors in permanent bookcases in the building.

The fourth item, "Care of yards and sidewalks," shall be on the basis of their total area and at the rate of 3 mills per square foot. So also with the item, "Care of lawns," except that the rate allowed is 3.3 mills per square foot.

The annual salary of each janitor shall be arrived at by applying the rates of compensation for cleaning, heating, ventilation, and superintendence to the cubic contents of the buildings, and by applying the rates of compensation for washing of windows and the care of yards, sidewalks, and lawns to the several areas. The total of the amounts shall constitute the annual compensation for janitor service.

This schedule does not include compensation for evening schools, school centers, vacation schools, playgrounds, and lectures or concerts, for each of which additional compensation is allowed.

A schedule of salaries worked out in accordance with some such plan as this would be much fairer than the usual haphazard method of determining the amount; furthermore, such an analysis of the duties of janitors as the plan entails would make it easy for the board to determine the amount of help which each needs in order properly to care for their buildings.

A brief examination of this matter led to the conclusion that, for the most part, Lexington school janitors are overworked and underpaid and that a reorganization of their duties and of their wages is needed.

A "SCHOOL" FOR JANITORS.

School janitors, like most people who work for the public, are rarely appreciated at their true worth. Few persons have any idea of the qualifications which ought to be required for the office. In fact the impression is very general that "almost anyone will do for school janitor."

Very little has been written which will aid the janitors in their work, and there is scarcely a school or college in the United States that offers the kind of training they need. Their relation to other departments of the school organization has never been satisfactorily determined; and their qualifications have never been properly standardized, so that a school board might know what constitutes a good school janitor or that janitors can know wherein they fall short of what is expected of them.

In a few cities in the West, notably Portland, Oreg., Berkeley and Oakland, Calif., "schools" for janitors have been conducted which the janitors are obliged to attend.

These "schools" comprise a series of lectures given by experts called in for the purpose, each lecture being followed by a free discussion.

The following list of lectures, as given in Oakland, Calif., in 1917, indicates the nature as well as the value of such a "school":[1]

1. What the board of education expects of the custodian.
2. What the superintendent expects of the custodian.
3. What the business manager expects of the custodian.
4. Cooperation between the principal and the custodian.
5. The custodian's relation to the pupils.
6. The custodian's relation to recreation and social center activities.
7. The custodian's part in the wider use of the school plant.
8. Some conditions in the school environment which may affect the child's health.
9. The use and care of the drinking fountains.
10. How to treat emergencies at school.
11. Fire prevention and fire control.
12. Heating and ventilation.
13. The operation of oil burners. (Oakland schools burn oil for fuel.)
14. The use and care of steam-heating apparatus.
15. Automatic temperature regulation.
16. The operation and care of school electrical equipment.
17. The oiling of floors.
18. By way of review, "Am I a custodian, or only a janitor?"

THE SALARY OF OTHER EMPLOYEES.

A corresponding revision upward of the salaries of all other employees of the Lexington school department should be made.

The superintendent of the schools of a city the size of Lexington should be getting $4,500 or $5,000. The business manager of the schools ought not to be receiving less than $3,600. The principals of elementary schools ought to have not less than $2,400, and high-school principals, with all the responsibility they have to carry, ought to have at least $3,600. The supervisors of the special subjects taught in the schools should be paid much more than they are now receiving; $2,400 is none too much. A truant officer ought certainly to receive more than $1,100. The salaries of colored employees ought to benefit in like manner, and if the preparation, qualifications, and results required of them are the same as for the white employees, group for group, their pay should be the same.

Lexington can do no better than to make larger investments in the faithful men and women who in unusual degree hold the futures of her children in their keeping. Money so invested means happy and contented workers and workers relieved in large degree of the worries incident to the struggle to make a meager income cover their

[1] Board of Education (Oakland, Calif.) Bulletin No. 8 (June, 1917), *The School Custodian, His Duties and Responsibilities.*

urgent needs. Lexington has so far made a splendid start in laying the foundations of an efficient and progressive system of schools. Before doing anything else she should give tangible recognition in terms of salary increases to the work of the men and women who have made the schools what they are.

8. ADDITIONAL NEEDS.

In addition to the foregoing changes in salaries Lexington, as rapidly as it is possible to accomplish it, should provide the following items:

1. When the teachers in a given department of the high school reach three or four in number they should be organized as a department with a responsible head who shall direct the work of the department.

2. Clerical help for the principals of the larger schools should be provided.

3. Adequate working libraries in each of the schools should be built up. Beginnings have been made, but these libraries are far from being adequately equipped.

4. A man to supervise the physical activities and the athletic sports of the boys of the high school should be secured.

5. More ungraded classes in the schools should be organized.

6. Special classes with specially trained teachers for subnormal pupils should be provided.

7. A music instructor on full time seems to be needed in the high school.

8. An assistant to the art supervisor is needed.

9. Extend the kindergarten to all Negro schools. It is now organized in all of the white schools. For many reasons the relative value of the kindergarten for colored children is greater than for white children.

10. A well-equipped supervisor of all the elementary schools is needed.

11. The establishment of continuation classes, and part time classes is needed; also, evening classes should be reestablished.

9. INCREASE OF FUNDS IMPERATIVE REQUIRING LEGISLATIVE ACTION.

To continue and extend the well-considered activities of the department already begun; to place the salaries of school employees where they belong; to equip and operate the new buildings which are needed; and to supply the things in addition which must be had to make the schools of Lexington fully efficient, demand a considerable increase in income. Under present legislative enactment the board

has been given the power of fixing the tax rate for school purposes, subject to the statutory limitation of 65 cents for $100 of assessed valuation. It has also the power of calling an election of the people for the purpose of bonding the city for school buildings, providing that at no time shall the outstanding bonded indebtedness for the purpose exceed 2 per cent of the assessed value of city property. The provision is a wise one, because it places the responsibility upon the board of education, which is the body knowing most about the schools and their needs. It is probably also wise that a statutory limit be placed upon taxation beyond which a board can not go without the consent of the people.

In every growing city, however, there will come times when it is impossible longer to conduct the schools with efficiency within the financial limits set. This time will soon have been reached in Lexington, it is clear, and steps should at once be taken to secure an amendment to the act under which the schools of Lexington are operating whereby the 65-cent limit of taxation and the 2 per cent limit for school bonds shall be raised.

When this shall have been accomplished and money is in hand to do generously the things which have herein been suggested, Lexington may know that she will have a school system prepared in every way to give to her children educational opportunities which are the equal of those of any city in this country. That Lexington is perfectly able to afford this is clearly shown in this analysis of her financial status; indeed, it is obvious that Lexington can ill afford not to do it.

139605—19——4

Chapter II.

AN ANALYSIS OF THE BUILDING PROBLEM.

Lexington has progressive schools. Throughout the system the aim is evidently to socialize the school and make it a real community force. In the best schools there are auditoriums, swimming pools, libraries, shops, science laboratories, etc., and even in the poorest schools there are attempts, often pathetic attempts, to give at least some of these activities to the children. The school authorities evidently constantly keep in mind that education is not a matter of reciting lessons merely but of "learning by doing" through wholesome, healthful activity.

But these attempts to make the schools of Lexington meet the needs of the children are carried on in the face of great practical difficulties—insufficient and inadequate buildings and insufficient funds. Lexington is not putting the investment into her schools which the children of the city and the progressive character of the schools deserve. In fact, she is spending far less on public education than the average city of her size.

THE BUILDING PROBLEM STATED.

Lexington's building problem would not be difficult to meet if the school budget had kept pace with school needs. For example, in 1912 there were 4,986 children enrolled in the Lexington schools. In 1910 there were 6,079, an increase of 1,096, or 156 a year. Obviously, this increase in enrollment is not so great but that it should be an easy matter to keep pace with it. But it is not an easy matter for Lexington now, because even in 1912 the buildings were inadequate for housing the pupils. For example, in that year there were 9 elementary schools, and only 3 of them had sufficient sittings to accommodate the enrollment.[1] Since 1912, only 3 new buildings have

[1] Capacity estimated on the basis of 40 pupils to a class, which, it is understood, is the maximum desired by the Lexington school authorities.

been erected—the Ashland School, the High School, and the Booker Washington School—and the Ashland School did not have sufficient sittings for its enrollment the year it was built.

Lexington's problem, therefore, is not merely to meet the present needs but to plan a comprehensive building and school finance program which will not only take care of present congestion but provide for future growth so that the city may not be in the same situation at the end of another seven years. In order to work out such a program it is necessary that Lexington ask itself the following questions:

What has been the rate of increase in the school population over a period of years?
Is this increase likely to remain constant, or to become less or greater?
Where is the congestion greatest?
In what direction is the tide of population moving?
What is the present condition of the school buildings? Which ones should be abandoned? What ones should be repaired?
How much playground space is needed?
In order to eliminate present congestion and also provide for future growth, how many and what kind of new buildings should be erected, and in what parts of the city; and to what extent can present congestion be relieved by reorganization of existing schools?
What appropriation is necessary to carry out a comprehensive building program?

PRESENT SCHOOL CONGESTION GREATEST IN FOUR SCHOOLS.

That congestion is usually concentrated in particular sections of the city and that consequently buildings should be put up only after a careful study of the trend of population is well illustrated by the Lexington schools. For example, at the present time, in the seven elementary white schools there is a total enrollment of 3,450[1] and a seating capacity of 3,040; that is, in seven schools there are 410 children without seats, but more than half of them (234) are found in two schools, the Maxwell and the Dudley.

[1] Omitting the Model school, which is not housed in an elementary school building.

Net public school enrollment by schools, 1912 and 1919; capacity of school buildings; number of regular classrooms; number of pupils in excess of seating capacity; number of classrooms required.

Names of schools.	Capacity, on basis of 40 per class.	Net enrollment.		Excess of pupils over seating capacity.	Number of available classrooms.	Total classrooms required.	Excess classrooms required over those available.
		1912	1919				
White elementary.							
Arlington	280	255	280	0	7	7	0
Ashland	320	.....	360	40	8	9	1
Dudley	560	638	640	80	14	17	3
Harrison	480	647	600	120	12	12	0
Johnson	560	822	622	62	14	16	2
Lincoln	280	142	374	94	7	10	3
Maxwell	560	801	708	148	14	18	4
Total	3,040	3,305	3,450	410	76	89	13
Colored elementary.							
Booker Washington	240	.....	185	[1]55	6	5	0
Constitution	480	442	531	51	12	14	2
Patterson	320	337	339	19	8	9	1
Russell	[2]380	523	493	113	(?)	.....	.....
Total	1,420	1,302	1,548	128	.....	.....	.....
Total elementary schools, white and colored	4,460	4,607	4,998	538	.....	.....	.....
High schools, white.							
Junior High School	440	.....	611	171	11	16	5
Senior High School	.....	379	332	.....	.....	.....	.....
Model School	.....	.....	138	.....	.....	.....	.....
Grand total	.....	4,986	6,079	.....	.....	.....	.....

[1] Number of surplus seats.
[2] Capacity can not be estimated on the basis of 40 pupils per classroom because some rooms will accommodate only 15 pupils. The number given represents the actual number of sittings available.

In the colored schools there was an enrollment in 1919 of 1,548 pupils, with a seating capacity in the four schools of 1,420, leaving 128 children without seats. If the Booker Washington School, which has surplus seats, is omitted, it is found that there are 183 children without seats in the remaining three schools. Of these, 113 are in the Russell and 51 in the Constitution School.

Obviously, then, the greatest need among the white schools is in the neighborhood of the Maxwell and Dudley Schools; while among the colored schools relief is most needed in the Russell and Constitution Schools. But a building may not be badly overcrowded and yet be unfit for classroom accommodation. Such is the case in the Arlington School. Moreover, there are indications that the population is likely to increase in that neighborhood since the city limits have been extended to the north. Therefore, Arlington should be added to the list of white schools needing immediate relief.

WHAT SHOULD BE DONE TO MEET PRESENT SCHOOL NEEDS?

Because of the development of the oil fields in the vicinity of Lexington, the population of the city is likely to increase much more

rapidly in the next 10 years than it has in the past. Therefore, this is an opportune time for the authorities to work out a school-building program which will avoid some of the most serious errors found in many city school systems.

First among these is the mistake of erecting many small buildings to take care of only immediate needs, instead of studying the trend and increase of population and then erecting buildings sufficiently large to provide for not only the present enrollment but future growth. Many small buildings dotted over a city mean greater expense in upkeep as well as initial cost, and they also mean fewer modern facilities for the children. The larger school with more children means that the community can afford to give the children a greater variety of facilities. For example, a school of 1,000 or 1,200 pupils can afford such facilities as an auditorium, shops, gymnasium, swimming pool, library, etc., whereas, if the children were housed in two school buildings with separate sites, equipment, teaching force, janitorial service, and cost of upkeep, the total expense would obviously be far greater. In other words, the city has something to learn from the country in the matter both of the social and financial advantages of the consolidated school.

A second error to be guarded against is the temptation to erect buildings in a new district before it is clear in just what direction the population is tending to concentrate. If there is need of a new building, the wisest course is to erect temporary movable buildings of a modern type later referred to. These can be used for three or four years until it is clear where the new buildings should be located, and until the building is ready for occupancy.

In the third place, it is important to buy sites of at least one block each in the parts of the city where new buildings may not be needed immediately, but where it is clear there will be a demand for them in the near future.

Judged by these standards, it is obvious that Lexington has too many and too small school buildings. Thirteen school buildings for only 6,072 children means an average of only 467 pupils per building, which is too few to justify expenditure for the educational facilities, such as shops, science rooms, swimming pools, auditoriums, and playrooms, which are so necessary in a modern city school system. The following recommendations are therefore made with a view to formulating a policy which will enable Lexington to keep ahead of her school building program:

1. NEW BUILDINGS.

For white children, a new school building south of Dudley School.—Not only is the Dudley School badly congested at present, but there is a rapidly increasing school population south of this

school and the warehouse section below it. In another part of the report it is pointed out how present congestion in Dudley can be taken care of, but it is here recommended that, in order to relieve permanently the Dudley School and also take care of the school population in the new residential district, a new school building be erected in the section which is south of the Dudley School and the warehouse section above referred to.

It is estimated that the present school population in this district is 300. In order, however, to relieve congestion permanently in Dudley School and provide for growth in the district, a building of 12 rooms and auditorium should be erected; this would provide for 480 children, but the building should be definitely planned with a view to making it ultimately a 24-class school, or large enough to accommodate 960 pupils.

It is further recommended that, inasmuch as the Junior High School is so far removed from this locality, and as there will of course be children above the sixth-grade age, this school be made, at least temporarily, into an elementary and junior high school combined. The two organizations could be kept separate, but the children in the lower grades would have the advantage of richer facilities than could otherwise be given to them, and the older children would have a junior high school in their immediate neighborhood.

It is important that junior high-school facilities be made more accessible for the majority of children. It is obvious, however, that Lexington can not erect junior high schools at the risk of ignoring the needs of the majority of children in congested schools. On the other hand, she obviously can not afford at present to erect both an elementary school building and a separate junior high-school building in each district that needs it. To meet the needs of both groups of children, therefore, the school to be erected in the district south of the Dudley School should be made into an elementary and junior high school combined.

Only the local authorities can make an accurate estimate of costs, but, judging by local conditions, it should be possible to erect such a building at a cost of $12,500 per classroom unit. On this basis a 12-room building would cost $150,000. The site for building and playground—which should be the size of a city block—is estimated at $12,000.

A site east of the Maxwell School.—The population is increasing rapidly to the east of the Maxwell and Ashland Schools, but present congestion in both these schools can be taken care of for a number of years on the plan of reorganization later referred to. Therefore, it is now recommended that a site be bought immediately to the east of the Maxwell School, upon which a building can later be erected. The cost estimated at $15,000. In order to take care of both the

elementary school pupils and junior high-school pupils in the district, it is suggested that the building be planned to accommodate, for the time being, both groups on the plan just referred to. This means that when another appropriation, following the one now contemplated is secured there would be three junior high schools in the city—one south of the Dudley School, one east of the Maxwell and Ashland Schools, and the present Junior High School.

For colored children, a new building for Russell and Constitution Schools.—Both the Russell and Constitution buildings are old and really not fit for use in a modern school system. Their combined enrollment is 1,024 pupils—493 in the Russell School,[1] of whom 114 are high-school pupils, and 531 in the Constitution. Both schools are in great need of relief—the Constitution, because the building is old and because the enrollment is increasing in this school more rapidly than in any other colored school; and the Russell, because though the enrollment is not increasing, the building is old and badly overcrowded. What should be done is to combine the two schools and erect a 30-class school building (1,200 pupils). This would take care of the present enrollment of both schools and allow for a growth of about 200 pupils. It should be situated near the Constitution district, since it is in this locality that the Negro school population is increasing most rapidly. The building should be of the modern type, with auditorium, gymnasium, manual-training shops, cooking room, drawing room, science room; and there should be half a block of playground space; in fact it should be a community center for the Negroes of that district. This school should be a combination of the elementary and high-school grades.

The fact is, however, that owing to statutory limitations, it is impossible for Lexington at this time to secure a bond issue exceeding $400,000. This means that it is impossible to erect at present as large a building as is necessary to relieve conditions in both the Russell and Constitution schools. It is therefore recommended that the present Russell School building be used for the high-school pupils (114), and that a new building of 12 rooms and auditorium be built to take care of the elementary-school pupils (379). This school should be erected near the Constitution School district and should be planned with a view to its becoming a 30-class school with the next building appropriation. Such a 12-room building, at $12,500 per classroom, would cost $150,000; the site is estimated at $5,000.

[1] The capacity of the Russell School can not be estimated on the basis of 40 pupils to a class since some classrooms have room for only 15 seats. Consequently, on the basis of the actual number of seats (380) there are at least 113 children in excess of seating capacity, and these are housed in two portable buildings at the rear of the main building. The building is old, and inadequate for the present school purposes.

2. TEMPORARY ACCOMMODATIONS IN NEWLY DEVELOPING DISTRICTS.

The Arlington School.—The Arlington School now has a school enrollment of 280 pupils. The building is old and totally inadequate for school purposes, and should be replaced at the earliest possible date by a new building. A number of points have to be taken into consideration, however, in planning for this situation.

In the first place, the city limits have recently been extended in this direction and it is uncertain in just what part of the district the bulk of the population will settle; secondly, the number of children (280) is hardly large enough to justify the erection of a new building.

Therefore, in order to relieve conditions in the Arlington School for the present, it is recommended that the present classrooms continue to be used as classrooms, but that special facilities, such as an auditorium, a playroom, and a manual training room and cooking room, be erected in the form of modern movable buildings of a particularly desirable type. Such buildings can be secured in the following units: An auditorium 30 by 60 feet, costing approximately $2,500; a gymnasium, costing the same amount; a cooking room with equipment, $3,000; and a manual training room with equipment, $2,000. An additional lot for a playground should also be purchased.

The children in the Arlington School would be much better off under this arrangement than in their present congested and cramped quarters. When the new building for this district is erected, these movable buildings can be transferred to other sections of the city, where a similar situation exists, as will always be the case in a growing city. Therefore, although buildings of this character are used for temporary purposes, they are a permanent asset to any school system, since it is possible through their use to take care of temporary congestion as the need arises.

It is further recommended that this school be organized on the work-study-play plan of organization now to be described.

3. REORGANIZATION OF EXISTING SCHOOLS ON WORK-STUDY-PLAY PLAN.

All the foregoing recommendations, with the exception of that relating to Arlington School, have to do with the erection of new buildings on the traditional plan of school organization. But it will take nearly two years to erect the new buildings and, in the meantime, the congestion will continue. It is evident that if the erection of new buildings on the usual basis of a reserved seat for every child were the only solution of the school congestion problem, cities all over the country would be facing an almost hopeless situation. Fortunately, however, there is another alternative method which has already been adopted by some 30 or 40 cities in different parts of the country.

This second method is known as the work-study-play plan. It has peculiar advantages for Lexington, since (1) it would relieve the situation immediately in the most congested schools, and do so within the financial limits of the city; and (2) it would also enable the school authorities to give to the children the modern educational facilities—such as auditoriums, shops, and laboratories—which they are now making such heroic efforts to provide in spite of lack of funds and space.

The work-study-play plan is primarily an attempt, not so much to solve the school congestion problem, as to give children a richer and fuller education. It grew out of a recognition of the fact that the rapid growth of cities makes the educational problem far more difficult than formerly; in fact, has created a new school problem.

The education of all children has, of course, always consisted of work and study and play, but formerly the farm and small shop supplied the opportunity for work and play, and the school needed to make provision only for academic study. In those days the environment of the average boy and girl furnished an education in wholesome activities that developed intelligence, initiative, and industrious habits. But during the past 50 years has come the growth of modern cities, until now half the population of the country is concentrated in them. And the city, with its overcrowding, its factories, its office buildings, and apartment houses which go up on all available vacant lots, is depriving children of the opportunity for the healthy, wholesome work and play which are essential elements in their education. The city home or apartment, unlike the farm with its many necessities of "learning by doing," can offer few educational opportunities in the way of healthful work which develops the ability to think by attacking problems to be solved. There is no planting and harvesting to be done; few, if any, animals are to be taken care of; and it is a rare city home that has a workshop or laboratory. Yet children until recently have received much of their education through the opportunity to handle tools, to take care of animals, and to experiment in making and using things. The city not only fails to educate children in the right direction; it educates them in the wrong direction, for the street, with its dangers to the physical and moral life of children, too often becomes their only playground; and street play means education, not in health and strength and wholesome living, but precocious education in all the vicious side of a city's life.

For these reasons it has come to be recognized that the city school must not only supply the opportunity for study in good classrooms under wholesome conditions but it must also return to the children the opportunity for healthful work and play which the home no

longer provides. This is evidently the educational philosophy of the school authorities of Lexington, for the aim of the whole system is obviously to socialize and harmonize the school and make it meet the needs of children who are growing up under modern city conditions. It is recognized that shops and laboratories and playgrounds and libraries are as essential as classroom facilities. The best examples of this are the Lincoln and Booker Washington Schools. It is only to be regretted that such advantages should be limited to children in one section of the city.

The work-study-play plan should be of great value therefore to the Lexington school authorities, for it is an attempt to make it practicable, both administratively and financially, for school administrators to provide not only classroom accommodations but also such modern educational facilities as gymnasiums, auditoriums, shops, and laboratories where children may be kept wholesomely occupied in study and work and play.

How the plan works.—Briefly, the plan is this: A school is divided into two parts, each having the same number of classes, and each containing all the eight or nine grades. The first part, which we will call the "A School," comes to school in the morning, say, at 8.30, and goes to classrooms for academic work. While this school is in the classrooms, it obviously can not use any of the special facilities; therefore the other school—"B School"—goes to the special activities, one-third to the auditorium, one-third to the playground, and one-third is divided among such activities as the shops, laboratories, drawing, and music studies. At the end of one of two periods—that is, when the first group of children has remained, according to the judgment of the school authorities, in school seats as long as is good for them at one time—the A School goes to the playground, auditorium, and other special facilities, while the B School goes to the class room. The method can best be explained, however, by applying it to Lexington's own schools.

Since the need of relief is greatest in the Dudley and Maxwell Schools, the following plan is recommended for the immediate reorganization of these schools.

Reorganization of the Dudley School on the work-study-play plan.—This school has a seating capacity—on the basis of 40 pupils to a class—of 560 pupils. Its present enrollment is 646, or 16 classes. In other words, there are 86 pupils, or over two classes, in excess of seating capacity. There are 14 regular classrooms; there is also 1 room used as a physical training room and 1 as a manual training room, making a total of 16 rooms. There are as many as 50 pupils in some rooms. There is no auditorium. There is outdoor playground space at the rear and in front of the school, making altogether 19,960 square feet of play space, but there is a penny lunch

building which occupies some of the front playyard. There is no room for an addition or annex on the grounds.

Under the work-study-play plan, this school would be made into an 18-class school, thereby allowing for an enrollment of 720. These 18 classes would be divided into 2 schools of 9 classes each. There are at present 14 classrooms. Nine would continue to be used as classrooms. Two of the seven remaining rooms could be made into an auditorium; two into a playroom; one used as a manual training room as at present; one as a cooking room; and one as a nature study or drawing room, or for any other special activity desired. It should be possible to make the necessary structural changes and also provide equipment for the cooking room for less than $10,000. The result would be that not only the present enrollment could be taken care of, but also provision could be made for an increase of 74 pupils, or for growth for two years.

Reorganization of the Maxwell School on the work-study-play plan.—The Maxwell School has a seating capacity of 560. Its present enrollment is 708, or 18 classes—i. e., there are 148 pupils in excess of seating capacity. There are 14 regular classrooms, a cooking room, a manual-training room, an auditorium now used as auditorium and gymnasium, and classroom. There is indoor play space in the basement.

Under the work-study-play plan this school should be made into a 24-class school, providing for 960 pupils, or an increase of 251 pupils. The 24 classes would be divided into 2 schools of 12 classes each; 12 of the 14 classrooms would continue to be used as classrooms, leaving two for special activities—nature study or drawing or music—in addition to the manual training and cooking room already provided. Since no structural changes are needed, and there is plenty of play space around the school, and sufficient indoor play space if only one-sixth of the school plays at once as it does under this plan, it should be possible to make this reorganization with no additional cost, except for whatever increased equipment would be desired under the traditional plan. The present bad congestion could be entirely relieved, and in addition there would be provision for growth for at least five years.

Organization of the Arlington School on the work-study-play plan.—The Arlington School now has 280 pupils, or 7 classes. It should be made into a 12-class school (allowing for 480 pupils). Six of the 7 classrooms in the existing buildings should continue to be used as classrooms. In addition, the following movable buildings should be erected on the school grounds: An auditorium, $2,500; an indoor playroom, $2,500; a manual-training room and equipment, $2,000; a cooking room and equipment, $3,000; making a total cost of $10,000. If this school is run on the work-study-play plan, as recom-

mended, the present enrollment could be taken care of and growth provided for until it is determined where it is desirable to locate the new building.

Under this reorganization on the work-study-play plan all the children would have not only the same amount of time for reading, writing, arithmetic, geography, and history as formerly—210 minutes—but also 50 minutes of play every day, 50 minutes a day of auditorium, and 50 minutes a day of shopwork every day in the week for a third of the year; science every day for a third of the year, and drawing or music every day for a third of the year.

The following table gives a possible program for the "A School." It will be recalled that there are 12 classes in this A school, which are divided into 3 divisions of 4 classes each: Division 1, upper grades; division 2, intermediate grades; division 3, primary grades.

The "A School."

School hours.	Regular activities.	Special activities.		
	Academic instruction.	Auditorium.	Play and physical training.	Cooking, shop, science, etc.
8.30– 9.20	Arithmetic—Divisions 1, 2, 3.			
9.20–10.10	Language—Divisions 1, 2, 3.			
10.10–11.00		Division 1	Division 3	Division 2.
11.00–12.00		Entire "A School" at luncheon.		
12.00– 1.00	Reading—Divisions 1, 2, 3.			
1.00– 1.50	History and geography—Divisions 1, 2, 3.			
1.50– 2.40		Division 3	Division 2	Division 1.
2.40– 3.30		Division 2	Division 3	Division 1.

The "B School."

School hours.	Regular activities.	Special activities.		
	Academic instruction.	Auditorium.	Play and physical training.	Cooking, shop, science, etc.
8.30– 9.20		Division 2	Division 3	Division 1.
9.20–10.10		Division 3	Division 2	Division 1.
10.10–11.00	Arithmetic—Divisions 1, 2, 3.			
11.00–12.00	Language—Divisions 1, 2, 3.			
12.00– 1.00		Entire "B School" at luncheon.		
1.00– 1.50		Division 1	Division 3	Division 2.
1.50– 2.40	Reading—Divisions 1, 2, 3.			
2.40– 3.30	History and geography—Divisions 1, 2, 3.			

This program represents a change in the traditional method in several important points. In the first place, it breaks up the custom of having all children in classrooms at the same time and letting the classrooms lie idle when the children go to the auditorium, shops,

and playground. In other words, it applies to the public school the principle on which all other public service institutions are run—that is, the multiple use of all facilities all the time. For example, it is evident that our transportation system is made possible because of the fact that all people do not wish to ride at exactly the same time; concerts and theaters are made available to many people because one person can use another's seat when he does not want to use it; hotels can accommodate thousands of people because they are not run on the principle of reserving each room for the exclusive use of a single individual during the whole year. On the other hand, the public school system has been run on the principle of reserving a seat for each child during the whole year. All children have to be in school seats from 9 to 12 a. m. and from 1 to 3 p. m.; all have to go home to lunch at the same time; and at 3 o'clock all are dismissed and turned out to play.

There would, after all, seem to be no good reason why the principle of other public service institutions, i. e., multiple use of facilities all the time, should not apply to the school, nor any reason why all children should be in classrooms at the same time, nor why the special facilities should be used only a fraction of the day, provided, of course, that the children receive during the day the required amount of academic work. In fact, it is difficult to see how the problem of providing enough classrooms, or playgrounds, or auditoriums for the mass of children is ever to be met if all children have to be in classrooms at the same time, and if all children have to play at once. Moreover, there seems to be no good reason from an educational standpoint why children should all have to do the same thing at the same time.

PRINCIPLE OF MULTIPLE USE MAKES MODERN EDUCATIONAL FACILITIES FINANCIALLY PRACTICABLE.

Fortunately, however, if the principle of multiple use is applied to public school facilities, it is possible to provide not only adequate classroom accommodations but also auditoriums, gymnasiums, and shops for the mass of children. In fact, accommodations may be provided in all facilities, if they are in use constantly by alternating groups, at less cost than regular classrooms alone may be provided on the basis of a reserved seat for every child. For example, in a 24-class school, under the traditional plan 24 classrooms are needed in addition to all the other special facilities. Under the work-study-play plan only 12 classrooms are needed. The classroom, however, is the most expensive unit in the school, therefore since only half the usual number of classrooms is needed, i. e., classrooms in a 24-class school, the cost of the remainder is released for all the other special facilities.

FLEXIBILITY OF THE PROGRAM.

A program based upon the multiple use of facilities not only makes possible modern educational advantages for the children, but it also makes it possible to have a flexible program. A study of the different types of these schools in different parts of the country shows that it is possible for a community to adapt the program to its particular needs. For example, it is possible to arrange to have the school begin at 8.30, 8.45, or 9 a. m., or any other hour desired. Or, if the school begins at 8.30 and certain parents object to having their children leave for school so early, it is possible to put these children in the "B School," which begins the day with special activities; in this case the children can omit the play period from 8.30 to 9.20 and arrive at school at 9.20. Or again, many parents prefer to have their children take special music lessons after school. It often happens that home work or staying after school interferes with these lessons. Under the work-study-play plan it is possible to put such children in the "A School" and let them omit the play period or the auditorium in the afternoon from 2.40 to 3.30 p. m. There is, of course, no reason why children should not be given credit for these out-of-school activities if so desired. Again, a child who is backward in a special subject, such as arithmetic, and is being held back in a grade because he can not master that subject, can double up in arithmetic for a number of weeks by omitting the auditorium period until he has made up the work and is ready to go on with his grade. As for the special activities, each community and each section of the city can have the special facilities which the school authorities and parents desire.

THE SCHOOL TAKES OVER THE STREET TIME OF THE CHILD.

As has been pointed out, one of the most undesirable elements in the life of city children is the street life in which they have hitherto spent so large a part of their time. The average city school is in session about 180 days in the year. This means that even though all the children attended the entire time, they would still be out of school 185 days in the year. Obviously, because of the conditions of modern city life it is necessary that the school take over some of the time now spent by the child on the city streets, especially the school year. At present if 10 hours of the 24 are allowed for sleep, and 6 for meals and home duties, there still remains 8 hours to be accounted for. Even if the children were in school 5 hours every day there would still be 3 hours left, and as is well known these hours are spent on the city streets and not always to the child's advantage. At least one or two of these should be taken over by the school, and wholesome activity in work and play provided.

The work-study-play plan does this by lengthening the school day an hour or more as each community may desire, and by offering to the children the wholesome activity in shops and laboratories and on the playgrounds, which is so essential for them. It should be borne in mind, however, that this lengthening of the school day does not necessarily lengthen the number of teaching hours of any teacher. It is necessary that she be around the building six hours, but she need not teach more than five hours.

TEACHERS REQUIRED.

The number of teachers required is usually estimated on the basis of a teacher to a class. But under the work-study-play plan, instead of all teachers doing classroom work, 16 in a 24-class school would be academic teachers, two would be playground instructors, one for boys and one for girls. Since the usual custom of playground associations is to provide one playground instructor for every 100 or 120 children, and since there would be only 80 children in each playground at one time, two instructors would be sufficient. That would leave one teacher for the auditorium, and three for the special activities. In a school as small as a 24-class school, and with only six grades, one teacher should teach both drawing and nature study.

It is true that, in the case of both the Dudley and Maxwell Schools, the plan would necessitate an increase in the number of teachers, but not an increase over the number which there should be even on the traditional plan of school organization. That is, on the basis of 40 pupils to a class, there are 17 classes in Dudley School and only 11 teachers; in Maxwell there are 18 classes and only 10 teachers. This means that an appallingly small number of teachers are carrying a great amount of work—another proof that Lexington should increase her school budget so that she may acquire and hold an adequate teaching force. The reorganization of the work-study-play plan should prove of great benefit to the teachers, for under that system each teacher has a particular line of work to which she gives her whole time instead of scattering her time and energies over many subjects, some of which she has no interest in, or is even incapable of teaching well. For example, under this plan, the academic teachers teach only academic work—reading, writing, arithmetic, geography, and history; the shop teacher, shop work; the playground instructor, playground work, etc. Also, under such a program, extra work can not be crowded upon the teacher, since she has an allotted time and place for her work. On the other hand, the children have the advantage of being taught in each subject by someone who knows it and is interested in teaching it.

It is of course desirable to have for the manual training, cooking, and other special shop activities, teachers who have made a special study of this work. Under any circumstances, however, Lexington, even under the traditional plan, should have a larger teaching force if the needs of the children are to be met. In the schools organized on the work-study-play plan, therefore, it would simply be necessary to see that some of these teachers had the special training referred to as they should have in the special work under any system.

THE JUNIOR HIGH SCHOOL.

It has already been suggested that the new building to be put up to the south of the Dudley School should be made into a combination elementary school and junior high school, and that the same plan be followed in the new building to be erected east of the Maxwell School with the next appropriation. In the meantime, since congestion in the present Junior High School can be eliminated under the work-study-play plan of organization, and also provision made for growth, it is recommended that such reorganization be put into effect immediately. The reorganization could be brought about as follows:

The building now has 11 regular classrooms which could accommodate 30 pupils each. This gives a capacity of 330. Its enrollment for the year ending June, 1919, was 611, or 16 classes. There are, however, in addition to the 11 regular classrooms, 2 manual training rooms, 1 sewing room, 1 cooking room, 1 print shop, 1 science room, 1 drawing room, 1 typewriting room, and 7 small rooms accommodating 25 to 35 pupils each. Ignoring these last rooms, there are in all 19 rooms. If the school were organized on a work-study-play program, it could be made into a 24-class school which would provide for 720 pupils, or an increase of 109 over present enrollment. Twelve of the best rooms could be used as classrooms, leaving seven rooms for the special activities. There are 17,000 square feet of play space, which would be totally inadquate if all the children played at once, but with only one-sixth of the school playing at one time there would be sufficient space.

It should be clearly understood that the work-study-play plan is recommended for these existing schools not because of its value from an economy standpoint but primarily because it provides richer and fuller educational opportunities for children. The inauguration of the plan does not do away with the necessity for new buildings; it simply makes it possible to get a greater return on the money invested in both new and old buildings—a greater return—that is, in terms of a richer, more socialized life for the children.

By reorganizing the Dudley and Maxwell Schools on the work-study-play plan, it will be possible for the school authorities to study the results, and determine whether or not they wish to organize the new schools on the same plan.

The following statement gives a comparison of what could be accomplished with the new buildings under the traditional plan of school organization and under the work-study-play plan. The cost is the same in both cases, but the number of classes provided for, the provision for future growth, and the special activities provided are different.

New buildings, number of classes provided for, provision for growth and special activities if the schools are organized on traditional plan of school organization.

1. New building south of Dudley School.

Estimated number of children of elementary grade in this district at present	300
Number of classes provided for in new building	12
Number of pupils provided for	480
Increase in number of pupils provided for	180
Number of classrooms	12
Number of special activities	[1] 2
Cost for 12-room building at $12,500 per classroom unit	$150,000
Site	$12,000

2. New building for Russell School.

Present elementary school enrollment	379
Number of classes provided for in new building	12
Number of pupils provided for	480
Increase in number of pupils provided for	101
Special activities	([1])
Cost of 12-room building at $12,500 per classroom unit	$150,000
Site	$3,000

New buildings, number of classes provided for, provision for growth and special activities under the work—study—play plan of organization.

1. New building south of Dudley School.

Estimated number of children of elementary school grade in this district	300
Number of classes provided for	18
Number of pupils provided for	[2] 720
Increase in number of pupils provided for	240
Number of classrooms	9
Number of special activities, 1 shop, 1 cooking room, 1 science room, auditorium, indoor play space	([3])

[1] Auditorium and indoor play space.
[2] This would provide not only for the elementary school pupils but for junior high school and still allow for growth.
[3] Any special activity can be put in which the school authorities desire.

Cost of 12-unit building at $12,500 per unit	$150,000
Site	$12,000

2. *New building for Russell Elementary School.*

Present enrollment elementary school	379
Number of classes provided for in new building	18
Number of pupils provided for	[1]720
Increase in number of pupils provided for	341
Number of classrooms	9
Number of special activities (1 shop, 1 cooking room, 1 science room, auditorium, indoor play space)	([2])
Cost of 12-unit building at $12,500 per unit	$150,000
Site	5,000

In other words, this comparison shows that the total cost for the two new buildings would be the same under both plans; i. e., $300,000. But under the usual form of school organization this expenditure would provide for 960 pupils, or 24 classes; would take care of only two schools—the one south of the Dudley School and the Russell School; and would provide for growth in the first school for about three years, assuming that there were not many in the junior high school division; in the second school for only two years.

On the other hand, the same expenditure under the work-study-play plan would provide for 1,440 pupils, or 36 classes; would take care of the enrollment in the school south of Dudley School for both elementary and junior high school pupils for about seven years; and would also (1) provide for both the elementary and high school pupils of Russell School, thus eliminating the cost of a separate school in the old building, and (2) take care of congestion in the Constitution School, and still allow for growth for three years.

Moreover, under the work-study-play plan three special activities in addition to auditorium and play could be provided in each school, whereas under the traditional plan only the auditorium and play could be provided, or if space were taken for the special activities it would cut out any provision for growth.

In the meantime, the following budget is recommended, based upon the fact that owing to statutory limitations it is impossible for Lexington at this time to secure a bond issue exceeding $400,000.

[1] It is evident that under this plan of organization the high-school pupils (114) could also be accommodated at once in this new building, and also the excess pupils (51) in Constitution School transferred to the new building, making a total of 544 in the building, which would still allow for a growth of 176 pupils, or for four years, until an addition could be erected.

[2] Others, if desired.

SUMMARY.

The following recommendations are made:

1. New buildings:

New 12-room buildings south of the Dudley School	$150,000
Site	12,000
New 12-room building for Russell School	150,000
Site	5,000
2. Site east of the Maxwell School for building to be erected on the bond issue to follow the present one	15,000
3. Temporary movable buildings for Arlington School, pending erection of new building later when it is clear where congestion is likely to be greatest in this district	10,000
Site	2,000
4. Reorganization of the Dudley and Maxwell Schools and the Junior High School on the work-study-play plan.	
Total cost, structural changes in Dudley School	10,000
5. Repairs to existing buildings[1]	46,000
Total	400,000

[1] See Chapter III.

Chapter III.

THE CARE OF BUILDINGS AND OF EQUIPMENT.

JANITOR SERVICE.

In the main the janitor service at the several buildings is good. We found, however, that the janitor service at a few of the buildings and especially at the Booker Washington School is not what it should be. At this school the walls and other parts of the building had been misused and not kept clean, and the building as a whole is not treated with the care it deserves. It is a splendid building and should be kept neat and clean and in good repair. A clean, tidy school building kept in good condition is an educational agent of great importance, and to this end nothing short of the best efforts of principal, teachers, pupils, and janitors should be tolerated. A janitor who does not see fit to fix things, or who strives always to excuse himself at the expense of some one else, is not fit to be in charge of a valuable school building. The importance of the janitor service can not easily be overestimated. We urge upon the board of education to pay these public servants, often badly overworked and unduly appreciated, good wages and in return exact from them a high-class service. (See Chapter I for suggestions regarding a wage scale.)

In this connection we wish to call to the attention of the board of education that in the basements, attics, and other storage rooms there are great numbers of old desks and other pieces of school furniture, some in good repair and others in need of repair, that ought to be gathered into a central storeroom where they may be kept for future needs, or, if they are not likely to be used, to be sold. These could be checked in and out by the proper authority at the central office, and thus a record would be at hand to supply easily and quickly any demand for school furniture. In connection with this storage building the department mechanic should have a repair shop where useful furniture could be put in repair with the least waste of effort.

We also found that much useless material in the way of boxes, barrels, waste lumber, and other junk had accumulated in the buildings. All that is really valuable should be removed to this central

storage room and the rest of it destroyed at once. It is not often the janitor's fault that this material piles up, for he, of course, is loath to destroy what the department may need somewhere. But all this material is in his way, and makes it impossible for him to keep his building as tidy and clean as it should be. Besides such accumulations add a fire hazard to the buildings that might at any time help to destroy valuable public property, or even jeopardize the lives of the children. We, therefore, respectfully urge that the board give serious attention to these facts and the suggested remedy. All basements, as well as classrooms, should be kept scrupulously clean and free from unnecessary or superfluous materials.

HEATING.

So far as we could tell at this season of the year (September 3–7) those buildings supplied with steam heat are fairly provided with radiation, and the boilers satisfactory. Some of the buildings are still heated by common coal stoves, which are no longer satisfactory or economical. We recommend that in all buildings which are likely to be used for many years yet, that wherever possible a central heating plant, consisting of a low-pressure steam boiler and the proper radiation, be installed. This will minimize the labor of keeping the building clean, the danger from fires, and the cost of coal. No hot-air system of heating yet devised will in the long run prove satisfactory, for after a very few years of use it will leak gas and smoke into the fresh-air ducts and hence into the schoolroom, especially when moderate fires are burning. We believe that many teachers keep their rooms too warm, to the detriment of the health of the children. In this climate, where during the winter season the air has a fair degree of saturation, 65 degrees Fahrenheit is ample, except in extremely cold weather, when 78 degrees is not too high.

VENTILATION.

Of course we had no opportunity to observe the ventilation of the classrooms, for the reason that schools were not in session. We wish, however, to commend the wisdom of the board in leaving out of their newer buildings the expensive fan systems which have of late often been installed in school buildings. But we wish to impress upon them and the teachers the great importance of maintaining a good circulation of fresh air in the classroom, both for the sake of the health of the children and their progress and interest in their studies. Since the proper ventilation of the classrooms depends almost entirely upon the careful and conscientious use of windows, we urge upon you that these be kept in good repair, so the teachers can handle them easily and safely, and then sternly demand that ventilation be constantly maintained.

FLOORS.

The floors of almost all the older buildings are in rather bad condition. In our opinion this is due largely to the practice of scrubbing the floors with wet mops. This should be discontinued, for this method of cleaning will ruin the best of wooden floors. A better plan is to use a rather stiff fiber brush to clean the surface from dirt, and then to oil or wax the floors and sweep, as is now done, with prepared sawdust to keep down the dust. If oil is used, it should be used sparingly and spread evenly, so that it will all be taken into the pores of the wood, and then be renewed as needs dictate. There are no facts to warrant a statement that the proper use of oil on floors increases the fire hazard. But we know that it will help to keep down the dust, protect the floors from splintering and wearing, and to some extent protect the children from disease-producing bacteria. This method of handling schoolroom floors will in the end save the time of janitors.

BLACKBOARDS.

You have been wise in selecting slate for your blackboards. These are, in the long run, most economical and satisfactory. But your architects have not been properly advised in setting the slates. In general, they are all set the same height above the floor throughout a building, regardless of the varying height of the children, say, of the first and sixth grades. Definite rules have been worked out through careful investigations which will guide you aright in all these matters, and your architect and builders should be directed accordingly. Such rules will enable you to get the best results and generally to save money and never increase the cost.

Blackboards should be set for the first and second grades approximately 27 inches above the floor, for the third and fourth grades 30 inches, for the fifth and sixth 32 inches, for the seventh and eighth 34 inches, and for the high school 36 inches. In some of the classrooms the teacher has no blackboard at her end of the room. These mistakes should be corrected.

LIGHTING OF CLASSROOMS.

The most conspicuous and serious mistake made in the planning of your present buildings, is that of improper lighting of many of the classrooms. Your older buildings were planned and constructed before much attention had been given to matters of school hygiene, and the prevailing tendency of those days was to put in the windows more or less at random, and on two or more sides of the room. In addition they were set too near the floors and not sufficiently near the ceiling to command the best sources of light and to distribute the

light most effectively over the room. In your newer and best buildings unilateral lighting has been adopted, but both the orientation of the buildings and the height of the windows still show lack of regard for the best interests of the children. We wish here to point out briefly that as far as possible all classrooms should receive either east or west light, and that rooms receiving south light should be used for offices, libraries, science rooms, manual-training rooms, and other special activities, and that rooms receiving north light only should be used for art rooms and drawing rooms. The reasons for these demands may be stated briefly as follows:

A classroom receiving east light has an opportunity of getting a full purification by direct sunshine all over the room early in the morning, but after an hour or so during the first part of the morning session direct sunshine is gone from the room until the next day, and the teacher may then roll up the shades and secure full window lighting the rest of the day without the disturbance to the pupils of direct sunshine. Vice versa, those classrooms lighted through west windows have little trouble with direct sunshine on the pupils' desks until rather late in the afternoon session, and after school the rooms are purified by the sunshine reaching all parts of the rooms. On the other hand, in those rooms which get their light through south windows, the children seated near the windows are on clear days troubled all day long with bright sunshine on their desks unless shades are pulled down to relieve them; but when this is done the room is often darkened to such an extent that those pupils seated farthest from the windows are seriously handicapped for lack of sufficient light. Besides, when shades are pulled down ventilation through the windows is seriously interfered with. These difficulties vex and bother the teacher all day long. Furthermore, more than half of a classroom, exposed to the south, never gets a ray of direct sunshine and, other things equal, is not so wholesome as one getting a full sunning. Of course it is plain that in this climate those rooms supplied with northern fenestration get practically no sunlight and can not, therefore, receive the wholesome purification of direct sunshine. These in brief are the main reasons why we insist on classrooms, and especially those for the elementary classes, receiving their light from either east or west.

It is plain, then, that every school building should be planned to meet these conditions, and that one entirely satisfactory for one site may be entirely wrong for another. You can not, therefore, use the same plan for a building facing on a street running north and south demanded for a building to face a street running east and west. And just here may we point out a peculiar local difficulty you have to meet. In certain parts of Lexington the streets do not run with the points of the compass, and since it is customary

to set buildings on lots to face the streets the difficulties of satisfactory lighting are multiplied. That is to say, we recommend that where you have sufficient room to overcome the rather awkward appearance of setting the building askew by parking, you face your buildings toward the cardinal points of the compass regardless of the direction of the streets. This will be easy to do where you have large grounds, but quite difficult and sometimes impossible where small lots only are available. But we are assuming that from now on all new sites will be amply large to meet these and many other essential demands.

TOILETS.

You in the main have done very well in demanding and securing good plumbing and in having it well cared for. We know that such conditions as you have at the Arlington School are not satisfactory to you and that you are not satisfied with the old latrines in use in several of the schools, for example the Russell School, and we wish to commend you in your effort to make them all sanitary and fully acceptable at your earliest opportunity. We wish at this point to suggest that it requires not only good plumbing fixtures but a good sunny well-ventilated room properly situated to render these necessaries both acceptable and sanitary. If you wish to keep your toilets sanitary, decent, and to make them educational agencies as well, turn in the sunshine and light. Moral questions as well as sanitary are involved. We recommend, too, that in the plans for your proposed buildings and of any reconstruction of those now in use you secure the best advice possible to get these rooms properly placed as well as properly equipped. A narrow, deep room with only one or, at best, two windows, where the stalls and urinals must face away from the light, will always be unsatisfactory even with the best plumbing fixtures you can command. The best toilet rooms face with the long side toward the windows, and they should receive either south, east, or west light, and never the north. The reasons for this demand are obvious. We urge you then to see to it that in all plans for new buildings or for reconstruction of old buildings that toilet rooms be given the attention in the plans they deserve. Be sure therefore to get good advice on these particulars.

COLOR OF WALLS.

It is our judgment that you have been badly advised with reference to the color of the walls of the interior of many of your buildings. Yellow, especially in the shades used, is not a satisfactory color, either from an æsthetic point of view or from that of school hygiene. It absorbs too much light, has a depressing effect on the

unconscious mental state of the children, and does not blend well with any sort of furniture or decoration.

A light gray or a light cream is much better and hereafter should be used. These matters have been determined after careful scientific work, and such conclusions should guide you in the future.

LARGER PLAYGROUNDS AND SITES FOR BUILDINGS.

We earnestly recommend that the size of school grounds at the buildings now in use be enlarged and that from now on only large and well-situated lots be selected for school sites. Keep out of noisy, dusty districts, and see to it that buildings are not crowded by factories, warehouses, or other objectionable buildings. The best asset of Lexington or of any other city is its school children, and they should be cared for, not only through love and respect, but also from a business point of view. Large playgrounds will reduce court expenses as well as train the children in a real democracy.

DRINKING FOUNTAINS.

The plumbers have yet to learn that little children in the first grades of school are not so tall as adults. Hence you will find all the drinking fountains set too high for the little folks to drink with the greatest ease and comfort. We recommend that you set your drinking fountains for the first grades so that the bubble is not over 2 feet from the floor. They can drink from these more easily and safely when they stoop. Some of them are now so high that the little folks have to climb on them to be able to drink at all.

SCHOOL DESKS.

In quite a number of the classrooms the desks are not properly set to give the children and the teacher the best use of the light. Most children are right-handed, and this demands that their desks be placed so that they may sit with their left side to the windows and with no windows in front of them. If placed in the opposite direction so their right side is toward the prevailing light, they are compelled to work when writing with a disturbing shadow on the page. If they are seated with their backs to the windows they are compelled to work in the shadows of their own bodies. Since Mr. Simrall, the business manager, accompanied us and we called his attention to these errors in the several buildings, pointing out in each case how these conditions could be remedied, no further direction in these regards seems necessary.

May we, however, note with our commendation that on the whole the desks had been kept clean and were unusually free from scars and disfigurements.

PLANNING SCHOOL BUILDINGS.

In common with those of many other cities in all sections of our country, the older buildings of Lexington are badly planned, erroneously lighted, and for the most part lacking in architectural beauty. Much has been done in recent years to put school architecture on a scientific basis and to make schoolhouses more attractive and more generally useful. School architecture has therefore developed into a specialty, and architects who are unacquainted with all the school and health demands entering into a modern schoolhouse, or who at least are unwilling to be advised by those who know these demands, should not be intrusted with the planning of future buildings.

It would burden this report to set forth even briefly all the school demands architects must consider in building a schoolhouse, but these are available and should be utilized in all future buildings.

It is expecting too much of the members of a board of education, whose business and professions are properly in other fields, to know even how to judge plans, let alone to guide architects in making them. Furthermore, most superintendents of schools have had too much else to do to master the myriad of details of this phase of school work, and can not command the time or are not given the authority to demand what they know is right. Therefore, we recommend that in the proposed building plans, and all those that will mature in the future, the services of an architect who is familiar with the best demands of schools and the help of some special student of schoolhouses from the educational and hygienic side be secured to assist the superintendent of schools in preparing plans for consideration. The custom of calling for competitive plans is not a safe one. It is far better to select an architect and say to him "if you will plan a building to suit this site, to come within the means at our disposal and to meet both the detailed needs of school life and the demands of architectual safety and beauty, we will commission you to build it. If these conditions are not satisfactorily met, we will be under no obligations to you."

The Bureau of Education will be glad to give whatever assistance it can in this matter.