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A SCHOOL BUILDING PROGRAM
FOR
MERIDEN, CONNECTICUT

By
ALICE BARROWS FERNANDEZ
SPECIALIST IN SOCIAL AND INDUSTRIAL PROBLEMS
BUREAU OF EDUCATION

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DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, August 19, 1920.

SIR: I am transmitting herewith for publication as a bulletin of the Bureau of Education a report of the physical survey of the schools of Meriden, Conn., with suggestions and recommendations for a building program for the city. This survey was made by Mrs. Alice Barrows Fernandez, of this Bureau, at the request of the Board of Education of the City of Meriden.

Two sets of recommendations for the building program are submitted. One is based on the usual plan of organization, through which a seat is provided for every child enrolled in the school, and, in addition to this, laboratories, gymnasiums, play rooms, etc., in proportion to the needs of the school or to the financial ability of the community. The other is based on the so-called work-study-play plan of organization, which provides for richer and more comprehensive courses of study and fuller daily programs so arranged that all units of the building and playground will be in constant use. This does not require a seat in the classrooms or study hall for every child, but may be very effectively carried out with one-half the number of seats, thus making possible a very considerable saving in the cost of buildings. This is particularly important at this time, when cost of building is from 100 to 200 per cent more than it was before the war.

This report will be of value not only to the citizens of Meriden, but to school officers and students of education elsewhere.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.

A SCHOOL BUILDING PROGRAM FOR MERIDEN, CONNECTICUT.

CONTENTS.—Meriden school authorities progressive but laboring under serious handicaps in building and equipment—Changed social and industrial conditions demand changes in education—Fifty per cent of parents of public-school children are foreign born—A comprehensive building program necessary to meet changed conditions—Rate of increase in the school population—Methods of relieving congestion and providing modern facilities—The work-study-play plan of organization—The school takes over the street time of the child—The problem stated—Proposed plan of reorganization for schools on west side of railroad track—Proposed plan of reorganization for schools on east side of the railroad track.

With the exception of the West Grammar School, Meriden has not erected a new public elementary school for 25 years. More than half the schools were built from 35 to 55 years ago. These buildings have practically none of the facilities which it is now generally recognized should be provided in modern city school systems. In all the 14 elementary schools [1] there is only one auditorium and three shops. There are no science laboratories, or nature study rooms, no drawing or music rooms, no libraries, no domestic science rooms. More than half the schools have utterly inadequate playground space.

MERIDEN SCHOOL AUTHORITIES PROGRESSIVE, BUT LABORING UNDER SERIOUS HANDICAPS IN BUILDING AND EQUIPMENT

The parents and taxpayers of Meriden probably do not realize that they are asking the school authorities to accomplish an almost impossible task. Needless to say, Meriden commercially would not be where it is to-day if the manufacturers of the city had been compelled to carry on their business with the same equipment and machines which they used 25 to 50 years ago. Probably the greatest changes in methods of industrial production that the world has ever known have taken place in the last 50 years. For any manufacturer to have clung to the old type of machines and processes in the face of changing conditions would have been to invite industrial disaster. But if the changes in business conditions have been revolutionary, the changes affecting the lives of children in cities have been no less revolutionary.

[1] This does not include Southeast, East, Hanover, and the Open-Air School, which are not covered in this survey.

CHANGED SOCIAL AND INDUSTRIAL CONDITIONS DEMAND CHANGES IN EDUCATION.

In the olden days in New England cities like Meriden the population was largely American born, and conditions were such that there was plenty of playground space for healthy play, and there were many small shops where children had the opportunity to handle tools and develop that mechanical knack which has always been such an asset in the growth of New England enterprises. In those days it made little difference that the school buildings consisted only of classrooms for studying the three R's. The children had plenty of opportunity for the wholesome work and play which, educationally, was just as important for them as study. There is such a common tendency to identify "schools" with "education" that it is important to emphasize the fact that education has always consisted of work and study and play, and that children must not be deprived of any of these three elements in their education if they are to grow in health and strength and develop initiative, intelligence, and the ability to think for themselves. Fifty years ago 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 half century has come the growth of the modern city, until now half the population of the country is concentrated in them. And the city, with its overcrowding, its factories, its office buildings, apartment houses, and tenements 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. But 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 the healthful work and play which the home can no longer supply.

To fail to do this is to fail to take into account the changed social and industrial conditions of the past 50 years. And not to take these conditions into account will be as disastrous for education as would be the failure of the manufacturer to adapt himself to changing conditions in industry.

FIFTY PER CENT OF PARENTS OF PUBLIC-SCHOOL CHILDREN ARE FOREIGN BORN.

Meriden offers an excellent illustration of these facts. During the past 50 years, not only has the city grown and developed along the lines indicated above, but the character of the population has changed. Whereas formerly the majority of the parents of school children were American born, a census of the fathers and mothers of Meriden public-school children taken in February, 1920, shows that 51.7 per cent of the fathers and 48.5 per cent of the mothers are foreign born. These parents came from 32 different countries. (See Tables 1 and 2.)

TABLE 1.—*Nativity of fathers of public-school children, Meriden, Conn., February, 1920.*

Country in which father was born.	Schools.																				
	Church.	Columbia.	East.	East Grammar.	East Primary.	Franklin.	Hanover.	High.	King.	Lewis.	Liberty.	North Broad.	North Colony.	South Broad.	Southeast.	West Grammar.	West Main.	Willow.	Open Air.	Total.	Per cent.
United States	41	35	6	81	12	95	46	317	74	11	112	74	59	91	6	87	95	22	12	1,292	48.3
Armenia												1		1		1				3	
Australia						1														1	
Austria	2			10	1	1	16	8	5		1	4	3	2		3	1	1	1	62	
Belgium								1												1	
Canada				3		3	1	13	2	2	2	2	4	3	2	3	5	1		46	
Denmark								3				1		1						5	
England	7	4		9	1	1	17	39	10		5	8	8	9		11	10	1	1	138	5.2
Finland												1	1				1			3	
France				2		1		4			1	2		1		2				14	
Germany	9	5		13	4	12	6	56	8	8	21	6	7	15		19	11	1	1	205	7.7
Greece	1							1									1			3	
Holland								1												2	
Hungary		2		1				2									1			4	
Ireland	2			5		3		38								1				58	
Italy	61	42	1	46	6	11	2	21	10	44	9	27	25	7		56	22	1	2	363	13.6
Lithuania						1	1						4			1	2			9	
Norway											1									1	
Poland	24	8		24	3	7	1	17	6		3	17	28	12		5	1	43	2	200	7.5
Porto Rico						1												1		1	
Roumania				1	1	1		1												5	
Russia	10	5		24	9	33	1	37	2	1		4	6	1		8	1	9	1	149	5.6
Scotland				1		1	1	3	1		2		1			1	1			12	
Slovakia								2				1	1							3	
Spain																					
Sweden		1		8		9		16	2		3	6	13	5		6	4			79	
Switzerland					1			2								1	2			6	
Turkey						3									1					4	
Ukrania														1						2	
Wales				1																	
Total	100	97	7	201	41	183	92	584	129	69	158	154	162	150	9	203	158	81	20	2,632	

TABLE 2.—*Nativity of mothers of public-school children, Meriden, Conn., February, 1920.*

Country in which mother was born.	Schools.																				
	Church.	Columbia.	East.	East Grammar.	East Primary.	Franklin.	Hanover.	High.	King.	Lewis.	Liberty.	North Broad.	North Colony.	South Broad.	Southeast.	West Grammar.	West Main.	Willow.	Open Air.	Total.	Per cent.
United States	46	35	0	92	13	88	47	344	84	25	115	78	66	87	4	93	100	20	11	1,366	51.5
Algeria												1								1	
Armenia												1		1		1				3	
Australia						1														1	
Austria	2			10	7	1	17	11	4	1	2	5	4	2		5	3		2	76	
Belgium								2									1			3	
British Guiana						1														1	
Canada	2	1		6	1	2	1	9	2	2	3	1		3	1	3		1		38	
Denmark								2				1	1							4	
England	7	2		4	1	5	14	31	7		8	6	6	7		9	6	1	1	118	4.45
Finland											1	1	1							3	
France	1			1		1		2	1		1		2	1		2	2			14	
Germany	7	5		12	4	14	6	48	5	3	12	4	5	20		21	12	2		181	6.82
Greece	1							1												2	
Hungary				1				2												3	
Ireland	1	1		3		9	3	33	1		3	1	6	1		3	1	1		67	
Italy	57	39	1	15	6	10	2	10	9	37	6	28	18	7		50	21	1	2	328	12.37
Lithuania						2	1						4			1	2			10	
Norway								1					1	1			1			4	
Poland	26	9		25	3	7	1	14	5		3	15	28	12	1	6	1	11	3	200	7.54
Porto Rico						1														1	
Roumania								1												1	
Russia	8	5		21	6	31		36		1		3	6	1	1	4	1	8	1	133	5.01
Scotland				1				3			1		1	1						7	
Slovakia						1		1				1								3	
Spain																					
Sweden	2			10		5		19	2		3		12	6	2	3	1			70	
Switzerland						1		2					1							5	
Turkey																					
Ukrania						3														3	
Total	160	97	7	201	41	183	92	581	120	69	158	154	162	150	9	207	158	54	20	2,632	

From the standpoint of the school, this means that the educational problem is far more difficult than formerly. It means that the school must now not only teach the three R's, but, to use a much overworked term, it must really be the "melting pot" of all these diverse elements. It must be a social agency in the community where all elements may meet on a common footing. It must be a school where the children may have the opportunity to develop the particular gifts which all these different nationalities bring to America, rather than a dye vat where all these different vivid colors from all over the world are dyed into one monotone. Moreover, if the modern city makes it necessary for the school to provide playgrounds and shops and science laboratories for American children, then it is even more important that these modern facilities be given to the children of the foreign born, for the crowded conditions under which they live, as a general rule, are such that public playgrounds are an absolute essential if they are to get the wholesome exercise necessary for every growing child. Again, because of the limited income of their families, they have, as a general rule, far less opportunity than the American child to develop their gifts in handwork or music or drawing or science.

It is said that America is the land of equal opportunity in education, but this does not mean opportunity for uniform education, but opportunity for the development of the varied gifts of many individuals. Democratic education means *variety* of opportunity in accordance with the needs of the individual. If Meriden does not give this variety of opportunity in work and study and play to the children of all its people, then it is failing to tap the reservoirs of power for its coming citizenship. Moreover, it is laying up trouble for itself in the future, for nothing is more serious to any community than to have the great mass of people feel balked in their power of self-expression and attainment.

A COMPREHENSIVE BUILDING PROGRAM NECESSARY TO MEET CHANGED CONDITIONS.

It is obvious from the foregoing that in developing a building program Meriden must not only take care of the immediate needs; it must make up for lost time, and it must also prepare for the future. No temporary patchwork will meet the situation. In fact, the request for the present survey is evidence of the fact that the present board of education realizes that only the carrying out of a comprehensive building program can meet the situation. Furthermore, the fact that many new industries are coming to Meriden, with the consequent increase in population and school enrollment, means that the building program must be undertaken immediately if the city is not to face serious congestion in the near future.

In order to work out such a program, it is necessary that Meriden obtain answers to 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? For what ones should additions be erected?
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?

THE RATE OF INCREASE IN THE SCHOOL POPULATION.

The records of the school census show that, although the number of children between the ages of 4 and 16 have increased in the last five years in the city as a whole, the number of children enrolled in the public schools has decreased. (See Tables 3 and 4.) For exam-

ple, the total number of children in the city in 1914 was 7,518; in 1919 it was 7,988. On the other hand, the total number of children in the public schools (including those over 16 years of age) was 5,542 in 1914–15; whereas in 1918–19 it was 5,300, a decrease of 242 pupils. (See Table 4.) By referring to the summary of the school census for October, 1919—the figures are not given for the year as a whole—it is found that, of the 7,988 children over 4 and under 16 years of age, 4,589 were enrolled in the public schools, 2,265 were in parochial schools, and 1,134 were not attending any school. Of those not attending any school, 453 were between the ages of 7 and 16. Of this number, 357 were at work. In other words, 34.7 per cent of all the children between the ages of 14 and 16 in the city had left school to go to work. (See Table 5.)

In planning a building program it is obvious that not only must the present enrollment be provided for, but also provision should be made for future growth due to the anticipated increase in population and also to the fact that, doubtless, with better buildings and equipment, many children will stay in school instead of going to work.

TABLE 3.—*Enumeration of school children (ages 4 to 16) in September, Meriden, Conn.*

Years.	Enumeration.	Years.	Enumeration.
1905	6,896	1913	7,470
1906	7,080	1914	7,518
1907	7,403	1915	7,401
1908	7,167	1916	7,499
1909	7,229	1917	7,542
1910	7,570	1918	7,745
1911	7,531	1919	7,988
1912	7,514		

TABLE 4.—*Public schools of Meriden, Conn.—Enrollment, etc.*

Schools.	Grades.	Enrollment.			Classrooms.				Special facilities.												Teaching force.						
		1914-15.	1913-19.	Increase or decrease.	Number available. Regular.	Number available. Kindergarten.	Required on basis of 40 pupils per class.	Number required over those available.	Auditorium.	Gymnasium.	Playrooms.	Shop.	Domestic science.	Sewing.	Drawing.	Music.	Library.	Shower rooms.	Lunch room.	Principal's office.	Teachers' room.	Medical inspectors.	Number of regular.[1]	Number of special.	Assistant principal.	Principal.	Total teaching force.
Elementary.																											
Church	1-6	313	384	71	9		10	1					1							1			8		1	1	
Columbia	K-6	309	294	[2] 15	7	1	8	0			2									1			8		1	1	
East Grammar	6, 7, 8	277	289	12	[3] 9		8	[3] 1	1			1	[4] 1	[4] 1						1	1		8			1	
East Primary	[5] 5, 6	143	139	[2] 4	4		4	0												1	1	1	4	1		1	
Franklin	K-5	389	382	[2] 7	7	1	10	2			2									1			8		1	1	
King	K-5	385	400	15	8	[3] 1	10	1			2									1			8			1	
Lewis	K-3	359	311	[2] 48	7	1	8	0												1			8		1	1	
Liberty	K-7	324	300	[2] 24	7	1	8	0			2									1			8		1	1	
North Broad	K-7	572	566	[2] 6	7	1	10	2												1			9		1	1	
North Colony	K-7	364	324	[2] 40	7	1	9	1												1			7		1	1	
South Broad	K-7	343	314	[2] 29	7	1	8	0			2									1			8		1	1	
West Grammar	6, 7, 8	381	259	[2] 122	12		8	[3] 3				1	1							1	1		8	1		1	
West Main	K-6	367	381	14	8	1	10	1												1			7		1	1	
Willow	K-3	207	202	[2] 5	3	1	5	1															4			1	
Total		4,533	4,345	[2] 188	102	10	115	3															98	4	10	14	[7] 132
Special.																											
Hanover	K-8	164	192	28																			4		1	1	
Southeast	1-7	14	12	[2] 2																			1				
East Meriden	1-4	29	35	6																			1				
Open Air	K-6		50																				1			1	
Total		207	289	82																			7		1	2	10
Total elementary and special schools		4,740	4,634	[2] 106																							
High school		802	666	[2] 136					1														30		1	[8] 1	32
Grand total		5,542	5,300	[2] 242																			145	4	12	17	174

[1] Plus 6 supervisors.
[2] Decrease.
[3] The capacity of these rooms varies from 28 to 62.
[4] These rooms are off the auditorium stage and unfit for the purpose for which they are used.
[5] And mental defectives.
[6] Portable.
[7] Including 6 supervisors.
[8] Plus 1 clerk and librarian.

TABLE 5.—*Summary of school census of Meriden, Conn., October, 1919.*

	Wards.					Total.
	1	2	3	4	5	
Number over 4 and under 16, September, 1919	928	2,004	1,261	1,646	2,149	7,988
Boys attending public schools	184	655	453	338	643	2,273
Girls attending public schools	201	688	446	327	654	2,316
						4,589
Boys attending private schools	200	221	125	326	269	1,141
Girls attending private schools	206	177	124	372	245	1,124
						2,265
Boys attending no school	66	129	41	153	187	576
Girls attending no school	71	134	72	130	151	558
						1,134
Total as above	928	2,004	1,261	1,646	2,149	7,988

School census classified by sex.

NUMBER ATTENDING PUBLIC SCHOOLS.

	Wards.										Total.
	1		2		3		4		5		
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	
Under 5	3	5	36	47	21	20	15	12	14	13	186
5- 7	32	38	159	162	95	73	65	61	155	140	980
7-14	122	128	429	452	286	278	204	210	414	418	2,941
14-16	27	30	31	27	51	75	54	44	60	83	482
Total as above	184	201	655	688	453	446	338	327	643	654	4,589

NUMBER ATTENDING PRIVATE SCHOOLS.

Under 5	2	1	7	4	4	4	1	1	2	2	28
5- 7	35	30	88	66	22	23	40	66	35	33	438
7-14	144	156	123	105	90	86	271	296	218	198	1,687
14-16	19	19	3	2	9	11	14	9	14	12	112
Total as above	200	206	221	177	125	124	326	372	269	245	2,265

NUMBER ATTENDING NO SCHOOL.

Under 5	25	29	40	29	35	35	76	58	76	70	473
5- 7	22	25	18	9	6	4	32	32	40	20	208
7-14	4	1	1	3	.....	1	.....	1	5	3	19
14-16	15	16	70	93	.....	32	45	39	66	58	434
Total as above	66	71	129	134	41	72	153	130	187	151	1,134

NUMBER AT HOME.

Under 5	25	29	40	29	28	35	76	57	76	70	466
5- 7	22	25	18	9	6	4	32	32	39	19	206
7-14	1	.....	.....	.....	.....	1	.....	1	2	2	7
14-16	.....	.....	5	23	7	10	7	17	.....	.....	69
Total	48	54	63	61	41	50	115	107	117	91	747

School census classified by sex—Continued.

EMPLOYED IN MANUFACTURING, ETC.

	Wards.										
	1		2		3		4		5		Total.
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	
Total	15	13	65	71	.....	32	38	28	57	38	357

DEAF AND DUMB.

Under 14	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
14–16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1

IMBECILES.

Under 7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7–14	1	.....	.....	.....	.....	.....	.....	.....	1	1	3

NUMBER SICK.

Under 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5–7	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
7–14	2	1	.....	.....	5	.....	.....	.....	2	1	11
14–16	.....	2	1	3	1	.....	.....	1	.....	1	8
Total	2	3	1	3	6	.....	.....	1	2	3	20

NUMBER CRIPPLED.

Under 5	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
5–7	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
7–14	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
14–16	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Total	.....	.....	.....	.....	.....	.....	.....	1	2	1	4

NUMBER NOT AT SCHOOL FROM OTHER CAUSES.

Under 14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14–16	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Total children not attending any school	66	71	129	134	41	72	153	130	187	151	1,134

Obviously, a building program should be planned on the assumption that it is the duty of the public schools to provide accommodations for all children of school age. The fact that a considerable number of children of school age are not enrolled in the public schools is due, at least to a certain extent, to the fact that the schools of Meriden have not, up to the present time, provided either adequate seating accommodations or modern school facilities for its children.

METHODS OF RELIEVING CONGESTION AND PROVIDING MODERN FACILITIES.

Although school congestion is not the primary problem in a building program at present, still there are even now fewer classrooms than there are classes; and with the anticipated increase in population congestion is likely to increase greatly in the near future unless measures are taken to meet it. From an educational standpoint, however, the serious situation in the Meriden schools is the utter lack of all modern school facilities, such as auditoriums, shops, and laboratories which every modern school system now considers necessary for the children. To provide for the anticipated increase in enrollment, and also to provide these modern facilities, especially in view of the fact that Meriden has done nothing in the way of school building for practically a quarter of a century, is evidently going to involve considerable expense and thoughtful planning. There are two methods by which congestion can be relieved and modern equipment provided.

The first method would attempt to solve the situation by the usual procedure of adding classrooms or new buildings without changing the traditional school organization. All children would be expected to be in school seats at the same time, and if provision were made for special activities, such as shops or cooking rooms, the classrooms would remain vacant when such facilities were in use. If such special facilities were provided, therefore, they would have to be in addition to a classroom for every class.

THE WORK-STUDY-PLAY PLAN OF ORGANIZATION.[1]

A second possible method of solving the building problem of Meriden is what is commonly known as the work-study-play plan, now in operation in some 30 or 40 cities in the country. This plan developed in an attempt to solve the peculiar school problems created by the modern city. It grew out of a recognition of the fact that, as is the case in Meriden, the growth of cities makes the educational problem far more difficult than formerly; in fact, has created a new school problem. The plan represents an attempt to meet these new conditions and 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,"

[1] This description of the work-study-play plan is taken from the author's discussion of it in U. S. Bu. of Educ. Bul., 1919, No. 68, pp. 34 et seq.

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 classroom.

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 attend 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 6 hours, but she need not teach more than 5 hours.

THE PROBLEM STATED.

There are at present 19 schools in Meriden, including the High School. The chief problem is found, however, in the 14 elementary schools—Church Street, Columbia, East Grammar, East Primary, Franklin, King Street, Lewis, Liberty, North Broad, North Colony, South Broad, West Grammar, West Main, and Willow. The total enrollment in these schools for 1918–19 was 4,345. There were in these buildings 112 regular classrooms, including kindergartens. On the basis of 40 pupils to a class, however, 115 classrooms were needed, or 3 more than were available. There are only 3 shops and 1 auditorium in all these schools together.

Meriden, like many other cities, is laboring under the handicap of having too many small buildings, which means greater expense and cost of upkeep as well as initial cost. It also means 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 1,200 pupils can afford such facilities as an auditorium, shops, gymnasium, swimming pool, library, etc., whereas if the children are 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 of both the social and financial advantages of the consolidated school. At the present time Meriden has too many buildings. By housing the children in 7 instead of 14 buildings it would be possible to relieve congestion, provide for richer facilities for the children, and also provide for future growth. How this can be done under the work-study-play plan of organization will now be described.

PROPOSED PLAN OF REORGANIZATION FOR SCHOOLS ON WEST SIDE OF RAILROAD TRACK.

1. *Consolidate Church Street School, Columbia, Lewis, and West Grammar.*—Church Street is an old school building in the midst of the business section of the city, with practically no playground space. It is utterly inadequate for school purposes. Columbia is at the extreme edge of town, with the State farm near by, which makes the development of population in that direction impossible. Lewis is an old building erected nearly 30 years ago. It has practically no playground space. West Grammar is a modern building but very poorly constructed, so that before the plan proposed is carried out a through examination of the building should be made in order to see if it would be safe to continue to use it.

It is proposed that these four schools be combined into one elementary and junior high school, and that the West Grammar School be used for the classrooms and an addition be erected on the lot to the rear of the school. A sufficiently large site should be purchased to allow for ample playground space. If the West Grammar School is not fit for continued use, a new school building could be erected between Lewis Avenue and Water Street on the site which is proposed for recreation purposes.

These four buildings now contain 1,144 children,[3] or 29 classes. A 36-class school should be provided for, thus allowing for 1,440 pupils, or a growth of 296 pupils (7 classes) over present enrollment. This would provide for the growth of about two classes in each school for the next five years.

Under the work-study-play plan 18 classrooms would be needed. The 12 classrooms in the West Grammar could be used as classrooms; there are also 2 shops in the basement of this building. A new building should be erected on the lot to the rear; it should contain 6 classrooms, 1 shop for boys, 1 shop for girls, 1 drawing room, 1 music room, 2 science laboratories, an auditorium, and 2 gymnasiums. This would make a building of 12 units. It is estimated that the cost of the classroom unit at present is $16,000. Therefore, this building would cost approximately $192,000.

2. *King Street School.*—This building was erected 34 years ago, in 1886. It is old, badly congested, and without any modern facilities. There are more children in this school than in any other single elementary school in the city, and it is situated in a growing part of the town. It should be abandoned and a new building erected in the neighborhood of Laurel Hill. It should be so built that it can be added to as the city grows, and at least 8 acres should be secured for playground purposes.

[3] Minus 104 children from Church Street School who live on the east side of the railroad track.

The enrollment in this school is 400 pupils, or 10 classes. It should be made into a 12-class school (480 children). This would allow for an increase of 2 classes. The new building would need to contain 6 classrooms, 1 shop for girls, 1 shop for boys, 1 music and drawing room, and 1 nature study room (10 units) and an auditorium and gymnasium. The cost would be approximately $160,000.

3. *West Main School.*—The children in this school should ultimately be sent to the consolidated school at West Grammar, but at present it would probably be best to leave the school as it is, putting in, however, the modern facilities.

The enrollment is now 381, or 10 classes. It has 8 classrooms. It should be made into a 12-class school, allowing for an increase of a little over 2 classes. Six of the present 8 rooms should be used as classrooms. One of the others could be used as a nature-study room and one as a drawing and music room. At the rear of the school a portable auditorium and a portable gymnasium could be erected at a cost of $2,500 for each unit. It would also be possible to add a shop for girls and a shop for boys. The cost would be as follows: One auditorium, $2,500; 1 gymnasium, $2,500; 1 shop for boys, $2,000; 1 shop for girls, $2,000; total, $9,000.

Summary of cost and capacity for the West Side schools.

Schools.	Cost.	Number of classes provided for.	Increase over present number of classes.
Consolidated schools—Church Street, Columbia, Lewis, and West Grammar	$192,000	36	7
King Street	160,000	12	2
West Main	9,000	12	2
Total	361,000	60	11

This estimate does not include the cost of the site to the rear of the West Grammar School nor the cost of the site for the King Street School.

PROPOSED PLAN OF REORGANIZATION FOR SCHOOLS ON EAST SIDE OF THE RAILROAD TRACK.

1. *Consolidate the Franklin School, East Primary, Willow, East Grammar, and North Broad Street.*—North Broad and Franklin Schools are badly congested, while the other three schools are old and utterly inadequate for school purposes. Willow and East Primary were built nearly 40 years ago. East Grammar would make an admirable clubhouse, but it was never intended for a school building. By combining all five schools in a new building, and also including the children from Church Street School who live on the east side of the railroad track, it would be possible to have a sufficiently large school

to afford the modern type of school, including the elementary and junior high school. The number of pupils would be as follows: Franklin, 382; East Primary, 139; East Grammar, 289; Willow, 202; North Broad, 366; Church Street, east side of railroad track, 104; total, 1,482, or 37 classes.

Make this a 42-class school (1,680) pupils. This would allow for an increase of 198 pupils, or 5 classes. A new building should be erected in about the center of the eastern section of the city, probably to the north of East Primary.

Under the work-study-play plan, there would be needed 21 classrooms. The special facilities could be 2 science laboratories, 2 shops for boys, 2 shops for girls, 1 drawing room, 1 music room, 1 kindergarten, and also an auditorium, and 2 gymnasiums. This would make 30 units, at a cost of $480,000. It is impossible to estimate the cost of the site.

2. *North Colony School.*—The pupils in this school could be sent to the central consolidated school, but since the town is likely to grow in the direction of the North Colony School, and since there are a good many children who come from outlying districts in that part of town, it is suggested that the modern type of portable building be erected to take care of the present enrollment, pending the time when there is a sufficient number of children in this section of the city to warrant the erection of a new building. The present building should be abandoned at the earliest possible moment. It was built 47 years ago. It is badly lighted, badly ventilated, and would be extremely dangerous in case of fire; some rooms are too large and some are too small; there is no principal's room, no teachers' room, nor any of the modern facilities. Only the fine spirit of the teachers and their unflagging zeal make it possible to conduct classes in such a building without positive injury to the children. On the other hand, the modern type of portable building is sanitary and well built; it is attractive, and can be equipped with all the modern facilities, and when it is no longer needed in this part of the town it can be used in other developing sections.

The enrollment in this school is 324, or 8 classes. It could be made into a 10-class school, with grades 1 to 6. This would allow for a growth of nearly two classes. The portable building should consist of 5 classrooms, 1 nature study room, 1 drawing and music, 1 shop for boys and 1 shop for girls, an auditorium, and a gymnasium, the cost to be as follows: One gymnasium, $2,500; 5 classrooms, $5,000; 1 nature study room, $1,000; 1 drawing and music room, $1,000; 1 shop for girls, $2,000; 1 shop for boys, $2,000; 1 auditorium, $2,500; total, $16,000.

All these units can be combined into a single building with heating plant, showers for boys and for girls, principal's office, store, etc., at

an additional expense of about $10,000, making a total cost of about $26,000. The children on the west side of the railroad track who now attend North Colony School could be transported to this school on the east side, or a 2-room portable school could be put up on the west side.

3. *South Broad School.*—This is a fairly good building with a fine playground. As it is uncertain just how the population is going to move in this part of the city, it would probably be best not to erect a permanent addition at this time, but rather to put up portables for various activities until it is certain whether an addition should be erected to the present building or a new building put up in another section.

The enrollment is 314 pupils, or about 8 classes. The school has 7 regular classrooms and 1 kindergarten. This should be made into a 10-class school of 6 grades, allowing for an increase of a little more than 2 classes. Five of the present rooms could be used as classrooms. Of the other 2 rooms, one could be used for nature study and the other for drawing and music. It would then be possible to erect portables as follows: One shop for boys, $2,000; 1 shop for girls, $2,000; 1 auditorium, $2,500; 1 gymnasium, $2,500; total, $9,000.

4. *Liberty School.*—This is a good building and there is ample playground space available, which should be purchased immediately. It seems probable that the town will grow in this direction, and if so there is enough space to erect an addition to the present building, but in the meantime it would be wise to erect portables for some of the special facilities.

At present there are 300 pupils enrolled, or about 8 classes. There are 7 regular classrooms, with 1 kindergarten. This should be made into a 10-class school of 6 grades, thus allowing for a growth of 2 classes. Five of the 7 rooms should be used as classrooms. Of the remaining 2 rooms, one could be used for a nature study room and the other for a drawing and music room. Portables could be erected as follows: One shop for boys, $2,000; 1 shop for girls, $2,000; 1 auditorium, $2,500; 1 gymnasium, $2,500; total, $9,000.

Summary of cost and capacity for the East Side schools.

Schools.	Cost.	Number of classes provided for.	Increase over present number of classes.
Consolidated school—Franklin, East Primary, East Grammar, Willow, North Broad, Church Street pupils east of railroad track	$480,000	42	5
North Colony (portables)	26,000	10	2
South Broad (portables)	9,000	10	2
Liberty (portables)	9,000	10	2
Total	524,000	72	11

Final summary of cost and capacity for the East Side and West Side schools on the work-study-play plan.

Schools.	Cost.	Number of classes provided for.	Number of special facility rooms.	Increase over present number of classes.
Consolidated school—Church Street, Columbia, Lewis, and West Grammar	$192,000	36	8	7
King Street	160,000	12	4	2
West Main	9,000	12	4	2
Consolidated school—Franklin, East Primary, East Grammar, Willow, North Broad, Church Street pupils east of railroad track	480,000	42	8	5
North Colony (portables)	26,000	10	4	2
South Broad (portables)	9,000	10	4	2
Liberty (portables)	9,000	10	4	2
Grand total	885,000	[1] 132	36	22

[1] This should provide for growth over a period of 5 to 10 years, depending upon the rapidity with which the town grows.

SAVING ON MAINTENANCE COST BY THE ELIMINATION OF 10 BUILDINGS.

By the elimination of the 10 buildings as suggested, $20,742.37 would be saved yearly in the maintenance of these buildings. This amount would doubtless more than offset the maintenance for the consolidated buildings, thus insuring a gain for the city. By maintenance is meant, according to the reports of the board of education, janitors' wages, water, light and power, janitors' supplies, telephones, repairs to furniture, insurance.

Cost of maintenance of West Side schools: Church Street, $2,903.06; Columbia, $1,877.66; Lewis, $1,801.09; King Street, $1,758.11; total, $8,339.92. East Side schools: Franklin, $1,736.06; East Primary, $1,489.76; East Grammar, $2,971.98; Willow, $1,463.14; North Broad, $2,260.01; North Colony, $2,481.50; total, $12,402.45; grand total, $20,742.37.

COMPARISON OF COSTS UNDER THE WORK-STUDY-PLAY PLAN AND THE TRADITIONAL TYPE OF SCHOOL ORGANIZATION.

Under the traditional type of school organization, it would be necessary in order to relieve congestion to the same extent, provide for future growth to the same degree, and give the same number of special facilities as under the work-study-play plan, to expend practically twice as much ($1,626,000) as under the work-study-play plan ($885,000). Moreover, it should be clearly understood that under the traditional type of school organization it is necessary to have a larger number of teachers than is necessary under the work-study-play plan; that is, on the basis of the present enrollment the program as outlined would require under the traditional

type of organization 139 teachers, without including any auditorium or playground teachers. On the work-study-play plan, 112 teachers would be required. (See Table 6.) Now, according to the returns for January, 1920, there were 132 members of the teaching force in the 14 elementary schools under consideration. In this number there are 14 principals. Under the reorganization proposed, only 7 principals and 12 kindergarten teachers would be needed. This would leave 113 teachers available. As has been pointed out, only 112 would be needed. Therefore, the reorganization on the work-study-play plan does not entail any increase in the present teaching force.

TABLE 6.—*Comparison of number of teachers required under work-study-play plan and under traditional plan on basis of present enrollment.*

Schools.	Under work-study-play plan.	Under traditional plan.
West Side:		
1. Consolidated (30 classes)	15 regular teachers. 4 shop. 1 drawing. 1 music. 2 science. 1 auditorium. 2 playground.	30 regular teachers. 4 shop. 1 drawing. 1 music. 2 science.
Total	26	38
2. King Street (10 classes)	5 regular teachers. 2 shop. 1 drawing. 1 nature study. 2 auditorium. 1 playground.	10 regular teachers. 2 shop.
Total	12	12
3. West Main (same)	12	12
East Side:		
4. Consolidated (38 classes)	19 regular teachers. 4 shop. 2 science. 1 drawing. 1 music. 1 kindergarten. 2 auditorium. 2 playground.	38 regular teachers. 4 shop. 2 science. 1 drawing. 1 music. 1 kindergarten.
Total	32	47
5. North Colony (8 classes)	4 regular teachers. 1 nature study 1 drawing. 2 shop. 1 auditorium. 1 playground.	8 regular teachers. 2 shop.
Total	10	10
6. South Broad (same)	10	10
7. Liberty (same)	10	10
Grand total	112	139

Summary of cost on traditional plan of school organization.

[On basis of same size school and same number of special facilities as on the work-study-play plan.]

West Side:		
1. Consolidated school—Church Street, Columbia, Lewis, and West Grammar (36-class school); an addition of 24 classrooms and 6 special rooms, 30 units, at $16,000		$480,000
2. King Street School (12-class school); new building of 12 classrooms and 4 special rooms, 16 units, at $16,000		256,000
3. West Main School (12-class school)—		
Portables for—		
4 classrooms	$4,000	
1 nature study room	1,000	
1 drawing room	1,000	
1 shop for boys	2,000	
1 shop for girls	2,000	
1 auditorium	2,500	
1 gymnasium	2,500	
		15,000
Total for West Side		751,000
East Side:		
4. Consolidated school—Franklin, East Primary, East Grammar, Willow, and North Broad (42-class school); new building of 42 classrooms, 8 special rooms, 1 kindergarten, 51 units, at $16,000		816,000
5. North Colony School (10-class school)—		
Portable building with—		
10 classrooms	$10,000	
1 nature study room	1,000	
1 drawing room	1,000	
1 shop for boys	2,000	
1 shop for girls	2,000	
1 auditorium	2,500	
1 gymnasium	2,500	
For making building 1 unit with heating plant, etc	10,000	
		31,000
6. South Broad School (10-class school)—		
Portable additions—		
3 classrooms	3,000	
1 nature study room	1,000	
1 drawing room	1,000	
1 shop for girls	2,000	
1 shop for boys	2,000	
1 auditorium	2,500	
1 gymnasium	2,500	
		14,000
7. Liberty School (10-class school)—		
Portable additions—		
3 classrooms	3,000	
1 nature study room	1,000	
1 drawing room	1,000	
1 shop for girls	2,000	
1 shop for boys	2,000	
1 auditorium	2,500	
1 gymnasium	2,500	
		14,000
Total for East Side		875,000
Grand total under traditional plan of school organization		1,626,000

Comparison of cost and capacity provided on the traditional plan of school organization and on the work-study-play plan.

Schools.	Number enrolled in 1918-19.	Number of pupils proposed under reorganization.	Classes provided for.	Increase over present number of classes.	Number of special facilities.[1]	Cost on work-study-play plan.	Cost on traditional plan.
West Side:							
Consolidated school	1,144	1,440	36	7	8	$192,000	$480,000
King Street	400	480	12	2	4	160,000	250,000
West Main	381	480	12	2	4	9,000	15,000
Total	1,925	2,400	60	11	16	361,000	751,000
East Side:							
Consolidated school	1,482	1,680	42	5	8	480,000	816,000
North Colony	324	400	10	2	4	26,000	41,000
South Broad	314	400	10	2	4	9,000	14,000
Liberty	300	400	10	2	4	9,000	14,000
Total	2,420	2,880	72	11	20	524,000	875,000
Grand total	4,345	5,280	132	22	36	885,000	1,626,000

[1] In addition to auditorium and playgrounds.