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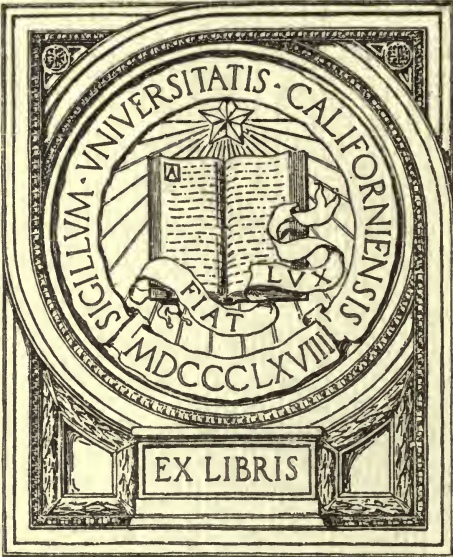
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THE OFFICIAL WIRT REPORTS

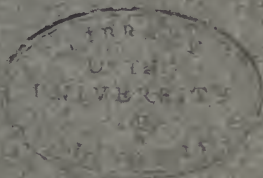
TO THE BOARD OF EDUCATION OF
NEW YORK CITY

Comprising the Official Reports upon Public School 89 Brooklyn
and Public Schools 28, 2, 42, 6, 50, 44, 5, 53, 40, 32,
4 and 45 the Bronx and an appendix showing the
more extensive reorganization proposed

WITH AN INTRODUCTION BY

HOWARD W. NUDD

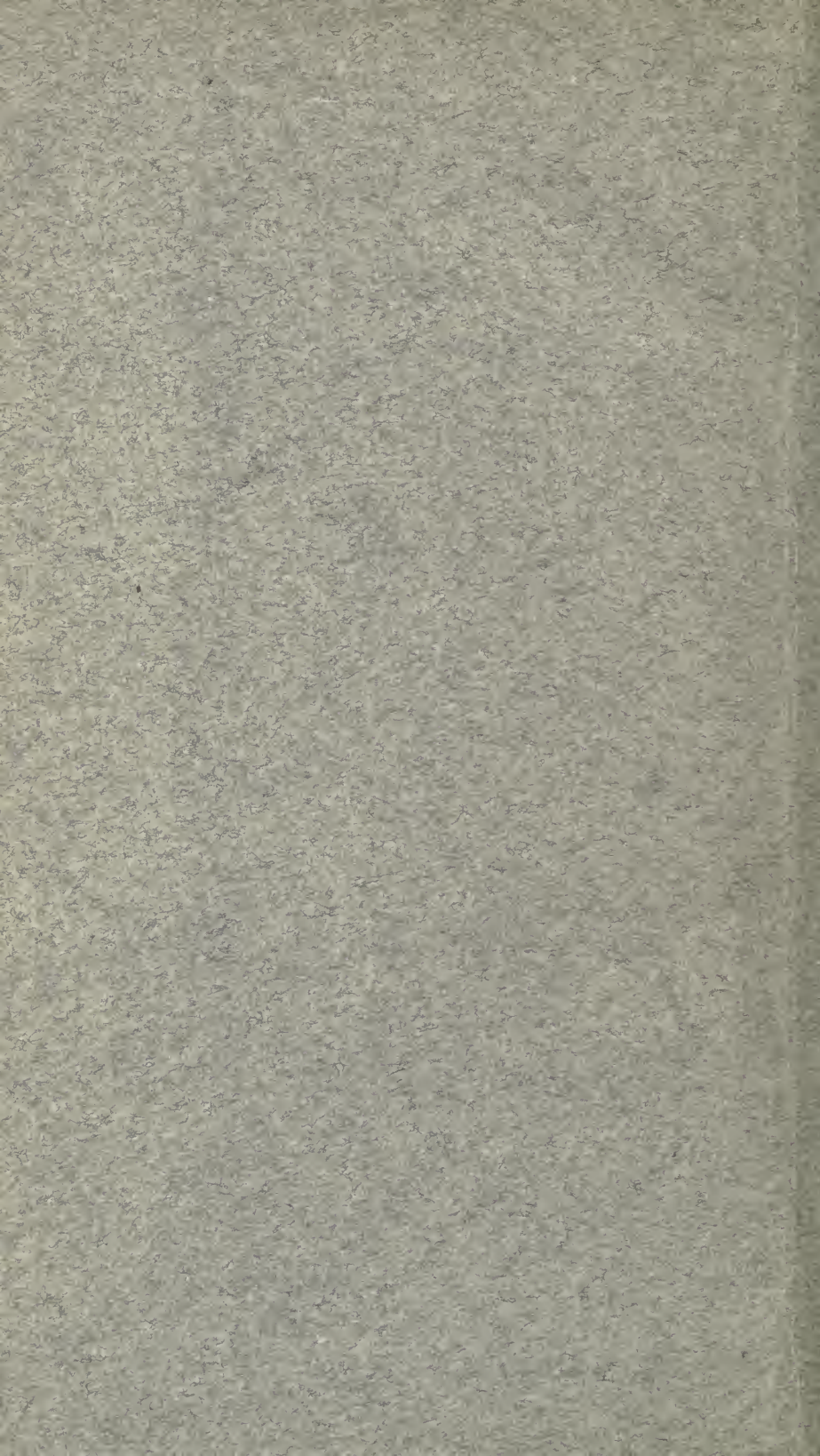
Director of the Public Education Association



PUBLIC EDUCATION ASSOCIATION OF THE
CITY OF NEW YORK

8 West 40th Street

June, 1916



Wirt, William Robert

THE OFFICIAL WIRT REPORTS

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and Public Schools 28, 2, 42, 6, 50, 44, 5, 53, 40, 32,
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FROM THE PRESIDENT'S OFFICE
TO THE UNIVERSITY LIBRARY

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INTRODUCTION

In publishing the official reports of Mr. Wirt to the Board of Education of New York City which are presented in the following pages, the Public Education Association is not concerned, primarily, in setting forth the specific recommendations regarding the particular schools enumerated. It is interested, rather, in making available for public consideration, in connection with the more general reorganization of the public schools contemplated by the city authorities, Mr. Wirt's own statement of the fundamental ideas underlying the duplicate or multiple type of organization, known as the Gary plan. The reports printed in this pamphlet cover only the twelve schools in the Bronx and the one school in Brooklyn, which the Board of Education decided to reorganize over a year ago. As the fundamental ideas underlying this reorganization are the same as those which underly the proposed reorganization on a wider scale, the Public Education Association believes that the appearance of these reports at this time will be of assistance to laymen and educators alike in comprehending what the city is planning to do in a thorough-going way for the children in all of the public schools.

After a protracted series of joint conferences the educational and city authorities recently decided to extend the duplicate type of organization to fifty schools, located in the several boroughs. The details of this decision are contained in an official statement issued by the Board of Estimate and Apportionment of the City of New York under date of May 9, 1916.* The reorganization of these fifty schools will affect over 143,000 children, and will eliminate to a large extent the part-time and double-session evil in the city schools. The expenditures for this purpose comprise over three and a half millions of dollars for the reconstruction of existing buildings; over a million and a half for the entire replacement of old buildings, and nearly two millions for new buildings in new locations, making a total of nearly seven millions of dollars for the first step in the reorganization of all of the schools in New York City on the multiple-school, or work-study-play, basis.

A plan which eliminates the evils of part-time is in itself desirable, apart from the enriched opportunities it offers in addition to the traditional school program. The amount of part-time in New York City is much greater than would appear from the number of children officially recorded as in attendance less than five hours daily. The actual condition is indicated by the following excerpt from the official statement of the Board of Estimate above referred to:

*See summary in tabular form in Appendix, pages 57-60.

"The real school housing problem in New York City, and in every city, is not the elimination of so many children on part-time and double-sessions. New York has 117,000 children on part-time and double-sessions. But if the Board of Superintendents were to reduce to normal size the 309 classes with registers of above 55, and the 991 classes with registers of 51 to 55, and the 716 classes with registers of 50, and the 3,908 classes with registers of 45 to 50, such reduction of over-size classes would add 100,000 more children to part-time and double-sessions. And if the various emergency classrooms and unsatisfactory school buildings were vacated, another 70,000 children would be added to part-time and double-sessions. Of the total register of 658,904 in the regular grades (1A-8B) (December 31, 1915), 287,000 might have been better off on part-time. A child in a good schoolroom, in a class of normal size, on part-time for four hours, is better off than in an over-size class five hours, or in an unsanitary and unsuitable classroom for five hours. The real problem in New York City is to provide new schoolroom capacity for 58,500, or one-half of the number on part-time and double-sessions, to relieve such conditions, and, in addition, provide new schoolroom capacity for 85,000 children, to reduce over-sized classes and eliminate emergency and unsatisfactory classrooms. With the traditional plan this would necessitate the construction of 3,500 classrooms, at a cost of \$42,000,000, on present estimated cost of \$12,000 per classroom, and no provision would be made for future growth.

"The problem of providing a school seat for every child is not difficult, for New York City now has, and always has had, more school seats than children in the schools. The real problem is to provide a school seat for every child at the place where the child can use it in a shifting population, and to scrap the worn-out plan and equipment. It would be interesting to know how many unused school sittings New York would now have if the city had been able at all times to provide a school seat for each child at the place where he could use it. No city of any size has yet been able to provide satisfactory school accommodations, on the basis of a reserved seat for every child, at the place where each child happens to be at the time."

It is important to remember, however, that the Wirt plan is not in any sense a device to eliminate part-time, although its immediate influence upon that problem in New York City has tended to create that impression. The plan is rather a method of organizing the school which extends to all of the children in the community the full advantage of all available educational resources. When the agitation over the extension of this plan in New York City began over a year ago the statement was frequently made that, while it might operate effectively in a small city like Gary, it was not suited to conditions in a large city like New York. In view of the demonstration which has been made ir

the Bronx and in Brooklyn, in the face of almost insuperable obstructions, and in view of the simplicity and general applicability of the plan, as set forth in the following pages, the fallacy of that contention is obvious. Indeed, the contrary would seem to be true—that the plan will work better in a large city than in a small one, because it aims to mobilize in the school all of the community resources which have educational value; the greater such resources in a given community are, the more extensive will be the educational opportunities provided in the school. The advantages of such a plan for New York would thus seem to be infinitely greater than for a small city like Gary, and much greater than for almost any other city in America.

The failure to grasp this point has doubtless arisen from an inability to discriminate between what the plan itself is and what it makes possible. Mr. Wirt's contribution has been, not so much in the field of educational theory, as in the field of educational engineering. He has simply made it administratively and economically possible to secure for all children a larger measure of the play and work opportunities which educators have been advocating for years as essential to a well-rounded education. The significant feature of the Gary plan is not, therefore, the particular kind of subject matter or the specific type of opportunities which Mr. Wirt is at present offering in Gary, but rather the principle of the duplicate or continuous operation of all available educational opportunities. This so-called "balanced-load" method multiplies the usefulness of each facility, and thus makes possible, with every dollar that is spent for school purposes, a richer school life for every child than could otherwise be afforded. If this point is clearly grasped a community which is considering the advisability of adopting the Wirt plan of organization for its own public school system will concern itself, not primarily with what is being done in Gary, or how well it is carried on there, but rather with the extent to which this plan will enable its own teaching corps to achieve better results than formerly with the means at hand. It will regard the organization under this plan solely as an improved instrument in school procedure, and will realize that, as before, the results achieved will depend to a large extent upon the vision of the teacher and her skill as a craftsman.

In considering an educational program for a great city like New York it is also important to remember that no large city is a social unit. The many districts of New York are practically as distinct from each other in nationality, customs and economic and social conditions as are an equal number of small towns of the same size and social composition scattered over a wider area and existing politically as separate communities. Each of these districts, like each of the small towns, is in itself a problem. Because of this fact the duplicate-school plan is especially adapted to a large city. It *individualizes* the schools, which have lost

their identity in the deadening routine of a huge "system," by providing a flexible program, which enables each more readily to meet the particular needs of its own locality.

There has been much written and said about the reorganization in New York City. The statements which have been issued by the Public Education Association in this connection are enumerated in the list of publications printed on the cover of this pamphlet. In all of these statements the Association has emphasized the fact that it has had solely in view the welfare of the children in the schools. It has hoped that its efforts to promote a thorough public discussion of the issues involved would assist in securing, at an early date, a longer school day and a richer educational program than are now provided. It has dwelt upon the factor of economy only because it was convinced that these advantages could not be obtained unless a plan were found which was feasible within the city's financial ability. The Association believes that the welfare of the children is advanced to the greatest extent when school and city authorities adopt every sound measure for obtaining every possible educational advantage for every available dollar of school funds.

Furthermore, while the Association has realized that Mr. Wirt's plan is not primarily a device for eliminating part-time, but rather for making available a richer educational life for all of the children in the schools, it has shared with city and school officials the belief that the part-time situation must be cleared up before other necessary improvements, such as a reduction in size of classes, can be hoped for.

It is in this spirit that the Association has added the following reports of Mr. Wirt to the list of its own statements, in order that the general public, as well as the men and women in the public schools, may learn from first-hand sources what Mr. Wirt proposes for the New York City schools. It has been led to do this because the school authorities have thus far been unable to make these reports readily accessible in printed form for public consideration. The plans and purposes of the so-called Ettinger plan have been set forth in detail in a pamphlet distributed rather widely a year ago by the Board of Education.

HOWARD W. NUDD,

Director, Public Education Association.

June 27, 1916.

The Reorganization of Public School 89 Brooklyn, N. Y.

Report Made January 19, 1915, to Thomas W.
Churchill, Board of Education, New
York City, by William Wirt

On October 31st, 1914, the Parents' Association of Public School 89, Brooklyn, asked for relief from the conditions existing in this school, because of overcrowding. To bring about this relief, a demand was made by the Taxpayers and Parents for the immediate erection of fourteen portable buildings to be followed by a new building, or an annex to the present building. With your permission I visited this school with a view to suggesting how the situation could be met. On November 6th a new school program was put into effect.

I would point out that, although the initial reason for taking up the problem of Public School 89 was to relieve the congestion in that school, the sole purpose controlling the new program was to give to the children richer opportunities for study, work and play.

As this demonstration in Public School 89 illustrates the method that it will be necessary to pursue in the reorganization of nearly all of your schools, it is important to note, step by step, the transformation in this one school.

Public School 89 lacks many of the modern facilities which are found in other schools in the city. For example, it does not have a gymnasium, well arranged play-room, public play park with a director in charge, branch of the public library, well equipped auditorium, sufficient wardrobes, and baths. While it would have been much easier to make a demonstration in a better equipped school, yet the demonstration at Public School 89 is all the more valuable because of the fact that it has been made with very limited facilities, and because it has been in operation for twelve weeks practically without any expenditure for additional accommodations.

THE ETTINGER PROGRAM OF PUBLIC SCHOOL 89.

Prior to November 6, 1914, there were forty classes attending School 89, a building containing twenty-six class rooms, with a program planned according to instructions issued to elementary school principals—"General circular No. 4, 1913-1914, September 23, 1913." Twelve of the forty classes, representing the upper grades, were on full time, having the exclusive use of twelve of the twenty-six class rooms. The remaining twenty-eight classes were organized in two groups of fourteen classes each and were accommo-

dated in the remaining fourteen class rooms, small auditorium and five cellar rooms, with a modification of the following program:

ETTINGER PROGRAM AT P. S. 89, BROOKLYN.

School Hours	14 Class Rooms	Opening Exercises and Study in Auditorium and Playground
8:30- 9:30....	First Group—14 Classes	
9:30-10:30....	First Group	Second Group—14 Classes
10:30-11:30....	Second Group—14 Classes	First Group—14 Classes
11:30-12:30....	Second Group	First Group—At Luncheon
12:30- 1:30....	First Group	Second Group—At Luncheon
1:30- 2:30....	First Group	
2:30- 3:30....	Second Group	
3:30- 4:30....	Second Group	

Since, with the old program twelve classrooms were used exclusively by twelve classes, the burden of the over-crowding was placed entirely upon the remaining fourteen class rooms. These fourteen rooms had a multiple use for eight hours a day, but the auditorium and playground were used only two hours a day. This means that the auditorium and playground were congested during the short time they were in use. When it rained and all the children were required to be in the building from 9:30 to 11:30, nine classes were forced to use the five cellar rooms at one time as study rooms. No provision was made for the systematic use of other child welfare agencies.

The Ettinger Program Was Not Intended to Secure Greater Facilities for Children than are Offered by the Ordinary Single System.

The principle underlying the Ettinger program was that of securing the traditional five-hour school day by supplementing the four hours in the class room with an additional hour in playground and auditorium. Unfortunately, the latter hour was used as much as possible for study in quarters that were never intended for use as a study room and cannot be made satisfactory for study. No one offers the argument that such a five hour school is better or even as good as five hours of regular class room work in the ordinary single system school.

This program was not intended to secure greater facilities for children than the ordinary single system school offers. *The purpose was to secure as nearly as possible the traditional work of the regular five-hour full time school, and it was considered only as a temporary expedient until a sufficient number of new schools could be built to provide the regulation full time school.* Since the main object was the building of additional school buildings for permanent relief, no funds could be expended upon this temporary double system expedient.

The Part Time Problem.

I do not know of a finer presentation of the part time school prob-

lem than that of your special committee on Part Time (Document No. 9-1913). The criticisms that I have made of the Old Program at P. S. 89 were made by the Part Time Committee as follows:

TWO CLASSES WITH TWO TEACHERS IN ONE ROOM.

"One of the devices employed to keep down the number of classes on part time is that by which in a large room, seating sixty or thereabouts, two teachers have been assigned to teach two classes in the one room.

This device violates the law covering legal seating capacity, and does not, except in rare cases, afford sufficient floor and air spaces for each pupil.

Having two teachers in a classroom sometimes leads to a clash of authority and a failure to co-operate in the details of the program.

An advantage of this device is that it permits fuller operation of the group system and develops the power of concentration by which both pupil and teacher are enabled to focus attention in the midst of distraction. It also affords an opportunity of placing an inexperienced teacher in association with an experienced teacher."

CIRCULATING OR ALTERNATING CLASSES.

"One objection to this device is that pupils are frequently obliged to occupy accommodations that are not suited to them. A class in penmanship certainly cannot be instructed to advantage in a kitchen or a workshop. Another objection is that pupils are obliged to carry their materials with them and are not able to work as satisfactorily as if they had a fixed abode."

CLASSES IN ASSEMBLY ROOMS.

"Few Assembly Rooms have adequate equipment for proper class instruction. The lighting and ventilation are usually unsatisfactory. The difficulty of having to work for several hours amid distracting noises of other classes certainly interferes with progress. It is a strain to teach in Assembly Rooms not intended for classroom purposes. The ceilings are usually too high. Fitting these rooms with curtains or movable partitions does not improve matters."

LOANED OR RENTED ROOMS.

"Rented or loaned rooms seldom have satisfactory light, ventilation or equipment."

ROOMS IN TEMPORARY BUILDINGS.

"No matter how well constructed temporary or portable buildings may be, they are not satisfactorily heated or ventilated. They are usually too hot in warm weather and the heat, even if sufficient, cannot be evenly distributed in cold weather."

ROOMS IN GYMNASIUMS, LIBRARIES AND PLAYGROUNDS.

"Gymnasiums, libraries and playgrounds were never intended for classroom purposes and their use as such is open to many if not all of the objections cited above. In addition, such use deprives pupils of advantages which the equipment was intended to afford.

Therefore your committee emphasizes its conclusion that the number of part time classes actually existing is no indication of the number of classes that should be on part time if various make-shifts were not employed."

NEED OF NEW BUILDINGS.

"All the devices that may be employed to avoid or reduce part time are, at best, but temporary expedients. It is difficult to develop school or class spirit when the school is so crowded that pupils are being marshaled in and out continually.

Every pupil is entitled to an individual seat and desk. He is entitled to a place in which his outer clothing may be secured. The teacher is entitled to the exclusive possession of a classroom which she may decorate according to her taste and in the decoration of which her pupils will naturally take part and pride. But, to give every child a seat according to the legal capacity adopted, would mean the immediate construction of buildings containing 100,000 sittings. This would be 50 buildings of 2,000 sittings each, or 100 buildings of 1,000 sittings each. If it were possible to begin at once the construction of such new buildings, they would hardly be available for two years, during which time conditions would continue to grow more and more serious. In view of this fact your committee reiterates that its recommendations are merely temporary expedients to relieve intolerable conditions, and are in no way intended to minimize the necessity for constructing new buildings. Therefore, these plans to utilize to the fullest extent the facilities provided are not advanced with the idea that the conditions which would be established by their adoption are to be permanent."

THE NEW PROGRAM AT PUBLIC SCHOOL 89 IS NOT A PART TIME PLAN.

The new program at Public School 89 is in no sense an effort to relieve part time by giving the children as nearly as possible a five hour traditional school day, until a new building can be built.

The sole purpose determining the program now in use at this school is that of securing a six hour day and much richer opportunities in a study, work and play school with a co-ordination of the activities of all child welfare agencies.

In describing this program I shall take up (1) the permanent improvements necessary to make the work at Public School 89 thoroughly effective, (2) the cost of such improvements compared with the other methods suggested for meeting the situation, (3) a descriptive outline of the new program, (4) how the new program offers greater opportunities for all children in a study, work and play school, (5) how the new program is founded on a sound economic basis, (6) opportunity new program affords as a clearing house for all children's activities, (7) opportunity offered for vocational training and (8) concluding recommendations.

1. PERMANENT IMPROVEMENTS WHICH ARE NEEDED TO MAKE THE NEW PROGRAM AT PUBLIC SCHOOL 89 EFFECTIVE.

I know that the new program of Public School 89 as it has been during the twelve weeks' trial, without a single penny spent for building improvements, is a better school than the traditional five hour school where each class has its own exclusive class room. But it can be made a convincing demonstration to parents and school officials by providing the necessary additional facilities.

The parents were at first antagonistic to the new program because they did not understand. But after the program had been in operation two weeks, a meeting was held with twenty-two mothers representing the executive committee of the Parents' Association. They decided that the new program had given relief and that it would succeed if necessary improvements could be made in the Building. After twelve weeks' experience with the new program, without any expenditure for additional facilities, the parents came out enthusiastically in support of the movement to give the new viewpoint of public school service a trial.

The parents of the school feel that they ought to get the full benefits of making a more economical use of their school plant. The only question that I have not been able to answer is "How many hundred years will it be before we get the gymnasium, etc?" If they could have seen real money immediately available for these improvements as was suggested in my report of July 31, 1914, recommending the appropriation of \$150,000.00 for the equipment and remodeling of six experimental schools, the opposition would have been negligible.

By making the following improvements at Public School 89 the increase in capacity, 16 class rooms, and additional facilities can be made permanent:

- 1—On the site now owned by the city adjacent to the present building erect a building containing a gymnasium, swimming pool and branch of the public library.
- 2—Equip the auditorium with a suitable platform, stereopticon lantern and motion picture machine.
- 3—Equip two class rooms for science laboratories, two class rooms for drawing studios and one class room for music studio.
- 4—Provide wardrobe accommodations for sixteen extra classes.
- 5—Equip each class room for use by two teachers.
- 6—Purchase remainder of block for permanent playground.

With the exception of the playground, the foregoing improvements will cost approximately \$40,000.00.*

2. COMPARISON OF THE COST OF THESE IMPROVEMENTS WITH THE COST OF OTHER MEANS OF MEETING THE SITUATION.

The estimated cost of the site and the proposed new fifty-one unit school building requested to relieve Public Schools 89, 152 and 90 will approximate \$510,000.00. If these funds were applied to improving *ten* schools according to the method proposed for Public School 89 in the foregoing section, at least 200 permanent additional class room accommodations would be made available. In the more modern schools a less expenditure will secure greater capacity.

If the fourteen portable buildings had been erected as demanded,

*\$50,000.00 was appropriated for the above improvements, including three additional class rooms which increased the capacity by six additional classes.

the monthly cost for janitor service alone for these fourteen portable buildings would have been \$140.00. A large added maintenance, operating cost and capital investment would have been required, if relief had been secured in the manner desired. The increased cost would not have brought with it additional facilities other than the exclusive right to a desk for each child. The twenty per cent. increase in school time, which takes the children from the demoralizing life of the street, and the other advantages of the new program in public school 89 would have been lost.

Since a fifty-one unit building adds accommodation for only forty-eight traditional full time classes, the satisfactory accommodation of sixteen additional classes at Public School 89 would justify the expenditure of one-third the cost of the new building and site upon Public School 89, or approximately \$170,000.00. But, as has just been pointed out, it is not necessary to spend anything like this amount.

If one hundred of the most congested typical schools were selected, I believe that an average expenditure of \$40,000.00 for each school would be sufficient to provide the immediately necessary additional facilities for a duplicate school, work, study and play program. Some schools would need play space; others, swimming pools; and some gymnasiums. \$20,000.00 to \$30,000.00 might be sufficient for some schools and \$60,000.00 to \$70,000.00 be required for others.

\$4,000,000.00 would thus permanently increase school capacity by at least 2,000 school rooms, and, distributed in the one hundred most congested centers, would practically relieve your part time situation.

Many schools with slight congestion could reorganize their programs without much expense. Many undesirable school plants could be sold and the funds thus secured used for the reorganization of desirable schools. A very large increase in school capacity can thus be secured for future growth in population. A relatively few new buildings would have to be built in localities where the increase in capacity of present buildings would not be sufficient.

3. DESCRIPTION OF THE NEW PROGRAM AT PUBLIC SCHOOL 89.

Under the Old Program there were only forty classes, but one class was very large and was divided into two sections with two teachers in charge. The number of pupils attending this school is increasing rapidly and therefore a program for forty-two classes was planned. The two additional classes should not be added until accommodations are secured for the library in the new gymnasium quarters, one of the necessary improvements listed on page 5.

The forty-two classes in the New Program are divided into two *Duplicate Schools* of *twenty-one classes each*. In the following programs these duplicate schools are designated as the *X School* and the *Y School*. Description of each school will be taken up in turn.

The X School.

Twenty-one of the twenty-six class rooms are used for the desired

academic instruction in the regular school subjects: arithmetic, language, reading, history and geography. The five remaining class rooms are used for the special school subjects—science, drawing and music. In addition to the twenty-six class rooms, the school has a manual training shop, a domestic science laboratory, a small auditorium, five cellar playrooms and a kindergarten. Because the class rooms set aside for special work are not yet equipped, they are for the time being used for additional regular class work. Since there is no library or librarian and since the manual training and cooking teachers are at the building only half time, two extra special teachers are in charge of the playground.

The X School will have the following activities and facilities for carrying them on as soon as the improvements recommended are made.

Type of Work	Regular Activities	Special Activities		
	Academic Instruction	General Exercises	Play and Phys. Training	Special Work
Facilities used by each type of work	21 Class Rooms	Auditorium	Playground Play Rooms Pool and Baths Gymnasium	2 M. T. Shops 2 Science Lab's 2 Drawing Studios 1 Music Studio 1 P. Library

The 21 classes are divided into three divisions of 7 classes each, as follows:

Div. 1—7 classes, 6th, 7th and 8th grades.

Div. 2—7 classes, 3rd, 4th and 5th grades.

Div. 3—7 classes, 1st and 2nd grades.

All the 21 classes from the first grade to the eighth take part in these activities according to the following program.

THE X SCHOOL.

School Hours	Regular Activities	Special Activities		
	Academic Instruction	General Exercises	Play and Phys. Training	Special Work
8:30- 9:20	Arithmetic Divs. 1, 2, 3	Auditorium		
9:20-10:10	Language Divs. 1, 2, 3			
10:10-11:00		Div. 1	Div. 3	Div. 2
11:00-12:00	Entire X School at Luncheon			
12:00- 1:00	Reading Divs. 1, 2, 3			
1:00- 1:50	History & Geo. Divs. 1, 2, 3			
1:50- 2:40		Div. 3	Div. 2	Div. 1
2:40- 3:30		Div. 2	Div. 3	Div. 1
3:30- 4:30			Div. 1	

Summary of Time Schedule.

PUPILS' TIME, MINUTES PER WEEK.

All pupils have twenty per cent. more time in school.

School Department	Division 1 Grades 6-8		Division 2 Grades 3-5		Division 3 Grades 1 and 2		
	X School	N. Y. Minimum	X School	N. Y. Minimum	X School	New York Minimum	
						Grade 1	Grade 2
Academic...	1050	840	1050	840	1050	880	1090
Auditorium.	250	75	250	75	250	75	75
Play	After School	80	250	150	500	300	180
Work	500	280	250	250'	Included in academic time.		
Total	1800	1275	1800	1315'	1800	1255	1345
Full time..	1800	1500	1800	1500'	1800	1200	1500

Teachers' Activities.

The actual time spent by the teachers according to the New Program is no longer than the established time. Each teacher has 210 minutes in Regular Activities and 100 minutes in Special Activities with 20 minutes for assembling of pupils, a total of 330 minutes, which is the established time.

The two periods in Special Activities should be departmentalized. Certain teachers should give both periods to play and physical training and other teachers should give both periods to music, drawing, science, etc. The manual training teachers and the public librarian release two teachers from the work periods, who may be assigned play and physical training. Six teachers should run the auditorium period and the remaining teacher of the division should be assigned to play and physical training. The only extra teachers are the manual training teachers. If there are a few teachers who cannot do the work of the Special Activities successfully, they may give all of this time to Regular School Activities. The teachers so displaced from Regular Activities may give all of their time to physical training and play, music, drawing, science, shop work, etc.

About half of the teachers will have an extra 50-minute period in the school for grading papers, planning school work, looking after individual needs of children or professional study. In my judgment it would be well if all teachers did their supplementary school work at the school rather than at home. Less energy will be required to do this work at school than at home, and the public will have a better understanding of the teacher's work.

4. HOW THE NEW PROGRAM AT PUBLIC SCHOOL 89 OFFERS RICHER OPPORTUNITIES TO ALL CHILDREN IN A STUDY, WORK AND PLAY SCHOOL.

Anything added to the academic school program that will compel the immediate use of the academic work will help put the children into a condition favorable for teaching. You must first get chil-

dren into a condition to be taught before you can succeed in teaching them. The auditorium, play and special work of the school represent as far as possible actual life conditions for the direct application of the academic instruction of the regular school hours.

The School Auditorium.

The auditorium work supplements and motivates the school studies. Recently at Public School 89 I saw the following in an auditorium period conducted by the sixth grade English class. The children had written in their regular class room exercises compositions on the subject of "Table Manners." They were asked to write in a form suitable for dramatization. The best composition was selected for dramatization. A half dozen children represented a nurse, a maid, and four children who had been left in charge of the nurse while the father and mother were in Europe. The father and mother were due to return soon, and the nurse was training the children for the homecoming. A dining room table was placed upon the stage and it was set ready for dinner with dishes from the cooking room. The boy, of course, came to the table with soiled hands and had to be sent to the lavatory. One of the children attempted to drain a glass by throwing his head back and tipping the glass over his face. He was most severely reprimanded. In a similar manner the proper use of spoons, knives and forks; the handling of soup, bread, meats, etc.; the mastication of food; proper conversation at table; all were illustrated most thoroughly. The 300 children in the audience were held spellbound. The stage is very low and the children in the audience had to stand in order to see, but there was not the slightest confusion.

There could be no question that this exercise given by children made a much greater impression than any teacher could have created by lecturing to the children on the subject. The auditorium period served as the incentive for the class room composition exercises, provided a need for public speaking, and contributed effective instruction.

Following the presentation all the children were given a period of freedom for talking and moving about the room. While no doubt much of the conversation was irrelevant, and I know of no objection to its being so, yet nearly all that I heard was inspired by the lesson on table manners. Here the auditorium exercise furnished a subject for conversation, and the conversation in turn reinforced the impression made by the exercise.

Following the free period fifteen minutes were given to chorus singing. The teaching of music is done in the special music room. The auditorium hour supplements this instruction and provides the opportunity to create and enjoy music. It will not be many years before this school will have special choruses, glee clubs, quartettes, an orchestra and a band.

Seven teachers with their respective classes use the auditorium at one time. Teachers are assigned to auditorium groups so that each group will include a teacher who can direct the music and a teacher who can play the piano. Eventually each of the auditorium periods

will be run by six teachers. The seventh teacher will be assigned to the playground. The manual training and shop teachers, the librarian and persons from outside the school can use the auditorium. Each of the six auditorium teachers with her class will be responsible for a twenty-minute program only once in two weeks. The class, not the teacher, should give the program. The six auditorium teachers select one of their number as leader for a week, month, or any other time division that they choose. The auditorium work may be presented in a great variety of ways—addresses, papers, stereopticon lectures, motion pictures, laboratory demonstrations, etc.

The Value of the Other Special Activities.

I believe that the program given above for the X School is planned solely with a view to providing the best possible facilities for this school of twenty-one classes. The children of the X School cannot use the regular twenty-one class rooms more than 210 minutes, if they are to use the auditorium, the playground and the special rooms as planned, unless they are given a longer school day. This would be true even though all of the school facilities were idle half of the time with only one school using them. I do not know of any reason why the class room work supplemented by manual training in regular manual training shops, drawing and music in special studios, science in special laboratories and library work in a real library, with the best of equipment and specially trained teachers is not better than trying to do all of these things in a much less efficient way in regular class rooms.

Most certainly playgrounds, gymnasiums and swimming pools are good things for children to have. I believe that gardens, work shops, drawing and music studios are good things for children to have. I believe that museums, art galleries and libraries are good things for children to use systematically and regularly. In my judgment opportunities for religious instruction, private teachers of music and assisting in desirable home work are good things for children, and this new and more elastic program offers a greater chance for taking advantage of them. So also are co-operative classes between the academic school and the industrial activities of the school business, repair, improvement and accounting departments, and between the school and industrial activities outside the school. In what way will the use of these facilities handicap a child in his efforts to secure an education?

Anything that gives the child a chance to use what the school is trying to teach him, anything that creates a need for the mastery of the things the school is trying to teach, should be a help to the teaching process. We often hear adults say that if they had their school days to live over again, they would improve them better than they did. What a pity that when we had a chance to educate ourselves we did not want to, and that now when we do not have the opportunity we would like to educate ourselves. What brought us as adults to a realization of the value of an education? Is it not the fact that every day we are disappointed in not being able to do the things that we might do, or have the things that we might have, if we had properly

trained our hands and our brains? It is the bitter disappointments in life that make us appreciate our lost opportunities. If our children are to appreciate their school opportunities now while they can make use of them, we must find a way for them to be actually disappointed now because they do not have the things that the school can teach. Such disappointments will create a desire to learn what the school can teach.

In place of telling the child to work hard on his arithmetic and language now because he will need them ten years later when he leaves the school and enters the real life of industry and commerce, the child has a chance to apply what he has learned of arithmetic and language in these real life departments of the school immediately every school day. The community life of the school and the community life of the neighborhood automatically create real needs for mastering the academic subjects of the school.

Good teachers should be able to do better teaching in worth-while subjects under such a program. The subjects that count most for success in life will be constantly and automatically motivated every school day. Even the purely cultural subjects are motivated. The direct contact with the automatic processes of industry reveals the necessity for cultural training for the individual in industry and commerce.

Poor teachers should do better teaching with such a school program. However, I doubt if any school program can make poor teaching good. This elastic program of work, study and play is not offered as a panacea for all school ills. In addition to a superior program there must be good management in order to secure a superior school.

5. HOW THE NEW PROGRAM IS FOUNDED ON A SOUND ECONOMIC BASIS.

Unfortunately the program described requires twenty-six class rooms for twenty-one classes of children in addition to the auditorium, play space, library, work shops, etc. No facility during the school day is used for more than half the time by the X School. Fortunately the auditorium need be large enough to accommodate only one-third of the X School. The same is true of the play space and the special work facilities. There is a great economy in using the facilities named for three periods by alternate groups each representing one-third of the school. But a higher first cost and a greater operation and maintenance cost would be justifiable in all of these facilities, including the regular class rooms, if they could be used longer and accommodate more children.

Since the X School can use any of these facilities only half of the time, what objection can there be to another school of twenty-one classes using the facilities when the X School cannot use them? Following is a program for such a duplicate school, designated Y:

The Y School has the same time as the X School, for both pupils and teachers. Neither school could use any facility any more if the other school were not there, but both schools have better facilities

Y SCHOOL

School Hours	Regular Activities	Special Activities		
	Academic Instruction	General Exercises	Play and Phys. Training	Special Work
8:30- 9:20		Div. 2	Div. 3	Div. 1
9:20-10:10		Div. 3	Div. 2	Div. 1
10:10-11:00	Arithmetic Divs. 1, 2, 3			
11:00-12:00	Language Divs. 1, 2, 3			
12:00- 1:00	Entire School at Luncheon			
1:00- 1:50		Div. 1	Div. 3	Div. 2
1:50- 2:40	Reading Divs. 1, 2, 3			
2:40- 3:30	History & Geo. Divs. 1, 2, 3			
3:30- 4:30			Div. 1	

every hour of the day because the other school is there. Forty-two classes of children are thus accommodated in twenty-six class rooms. In place of building a sixteen-room additional school with its initial cost of site and construction, and its annual cost of janitor service, heating, maintenance, etc., an equivalent expenditure can be made for the permanent improvement and increased operating cost of the twenty-six room school.

Richer Opportunities for Children.

While this program makes two schools in one possible, primarily it is planned to provide a longer school day, i. e., six hours in place of five, and greater facilities for each child during each of the six hours. Twenty-six class rooms are used to accommodate one school of twenty-one classes. In addition there must be an auditorium, playground, gymnasium, manual training shops and domestic science laboratories, drawing and music studios, science laboratories and branch of the public library. It is evident that the first thought has not been economy of school expenditure, but economy of the resources of the child.

One hundred minutes' daily play is given to the primary grades, for play takes the place of work for small children. This play is gradually transformed into work, fifty minutes' work and fifty minutes' play in intermediate grades, and one hundred minutes' work in the grammar grades, as the older children use their after-school leisure time for play. Thus the play impulse is transformed into a work impulse. Productive activities are substituted for non-productive activities. Work is made constructive play.

Vocational training in the elementary schools does not mean teaching children how to use a few tools. Only a relatively few persons can become plumbers, electricians, sheet metal workers, machin-

ists or carpenters, and they cannot learn these trades at twelve or thirteen years of age. *The best type of vocational training in the elementary school will be provided, not by the addition of a special vocational school department for a few children, but by enlarging the function of the entire elementary school from the kindergarten through the high school, to meet changed industrial and social conditions.*

The school must learn how to do its part in the training of all types and classes of children in the Art of Right Living from the standpoint of the producer as well as of the consumer. This may seem to be an idealistic, impractical program for an ordinary school, but I believe it to be practical and that it can be realized in all ordinary schools.

Financing the Ideal School Requires Merely the Ordinary Economic Principles of All Public Service.

At first thought it may seem that the problem of financing such enlarged school opportunities will be a serious one, but the facts are that to finance an ideal school is not a problem. The great problem is to know what kind of school will meet the children's needs and how to run such a school when you have secured it. You can afford any kind of school desired, if ordinary economic public service principles are applied to public school management.

The first principle in turning waste into profit in school management is to use every facility all the time for all the people. The class rooms, the auditorium, the playground, the gymnasium, the swimming pool, the work shops, the studios, the museums, and the libraries should be in constant use all day long by all children alternately, and out of school hours they should be used by adults.

I do not know any good reason why all children should be on the playground at the same time. Yet that has been the established custom. Why should we purchase at public expense a private space of ground for each child to play in as his exclusive personal possession? If a school enrolls 2,400 children and has one acre for a playground, each child has as his share only twenty square feet if all children play at once. But if the children play in separate groups of 400 at different times during the day, then each child would have as his share of the playground one hundred and twenty square feet in which to play. I doubt if any city can provide ample play facilities for all its children if they all play at the same time.

School practice still clings to the idea that all persons in school want to do the same thing at the same time. The argument is made that of the twenty-four hours of the day and the 365 days of the year only certain hours and certain days can be used for certain things and that each child must have his own private school desk, auditorium seat, play space, etc., for his exclusive use. Tradition says that all school children must be in the auditorium for opening exercises from 9:00 to 9:15; in class rooms from 9:15 to 12:00 and from 1:00 to 3:00; in playground and library from 3:00 to 5:00. It would not do at all

to have a child in a class room from 3:00 to 3:30, in a library from 2:00 to 3:00, in a playground from 10:00 to 11:00, or in an auditorium from 1:00 to 2:00.

The facts are that there are many things in school and out of school that all people do not want to do at the same time, or can just as well do at different times.

PARKS.

What would you think of a city park system that limited the use of the parks to 3:00 to 5:00 o'clock five days a week for only 200 days of the 365 days of the year, and tried to have everybody use the parks daily? With all the people in the parks at one time each person would have as his share of the park a space equal to the park area divided by the total number of persons served. A very foolish park system, you say. All people do not want to use the parks at the same time and there is hardly any time when no one wants to use the parks.

RAILWAYS, HOTELS, ETC.

The modern city is largely the result of the application of the principle of the common use of public facilities that we need for personal use only part of the time. We are willing that other people use public conveniences when we cannot use them. How many street cars would be required and what sort of cars and service could we afford, if each citizen had to have his own private street car seat for his own exclusive use? How many limited trains and Lusitanias would be required and what sort of trains and steamboats could we afford if each person had to have his own private seat in a train and state room in a boat for his own perpetual exclusive use? Private, exclusive use of transportation facilities would turn us back to the "one-horse shay" and the fishing smack. How many hotel rooms, dining tables, etc., would be required and of what sort would they be if each visitor to New York during the year had to have reserved throughout the year his own private bedroom and dining table for his own exclusive, limited use? Yet the hotel room used only four days during the year would be in use longer than the average school auditorium is used during the year.

PUBLIC LIBRARIES AND MUSEUMS.

Modern public conveniences are made possible only by their common use, and the fact that we do not all want to use the same public convenience at the same moment. We are willing to have some one else use our public library, look at our pictures in our public museum, walk in our public park, sleep in our Pullman berth or in our hotel bedroom, or travel on our steamboat, when we are otherwise engaged.

Reorganization of Public Schools an Economic Necessity.

The great masses of our children in our cities can never have ample play spaces, suitable auditoriums, gymnasiums and swimming

pools, work shops, libraries, museums, or even ordinary school rooms for study and recitation, if all children at the same time must be using each of these facilities separately.

New York City has averaged \$7,000,000.00 a year for school buildings and sites during the past fifteen years, and even with that expenditure has not been able to provide enough class rooms for each school child to have the private exclusive possession of a school seat, to say nothing of providing additional facilities.

Document No. 8, 1914, contains requests of your Board of Superintendents for the erection of new buildings costing \$30,000,000.00 to \$40,000,000.00 to provide for present overcrowded conditions in your schools. The \$105,000,000.00 spent during the past fifteen years should have been one-third greater in order to provide an exclusive desk in a class room for each of your 750,000 school children. It seems to be absolutely necessary that some other method be tried in order to catch up, i. e., to secure a sufficient number of ordinary school rooms.

Fortunately the per capita cost for accommodations in auditorium, playgrounds, play rooms and gymnasiums is less than that for regular class rooms. The regular class room is the most expensive unit in a school. Many persons in New York are of the opinion that ample playground space is impossible in New York City because of the high land values. Class room space costs approximately \$200 per pupil. Forty square feet of play space is sufficient for each pupil and can be purchased at five dollars per square foot with the \$200 pupil class room unit cost for which it is substituted. The class room pupil unit cost averages \$200 for the entire city, but land values do not average five dollars per square foot. Roof playgrounds cost only one dollar and fifty cents per square foot. Besides there is a great amount of public play space now available, as well as many gymnasiums, play rooms, play roofs and auditoriums.

Ample accommodations may, therefore, be provided in all facilities, if they are in use constantly, by alternating groups, at less cost than regular class rooms alone may be provided on the basis of the exclusive, private possession of a desk and one-fortieth of a class room by each pupil.

A work, study and play school is extravagant only in the opportunities offered children.

6. A CLEARING HOUSE FOR CHILDREN'S ACTIVITIES.

All persons do not wish to send their children to school at the same hour in the morning. Some prefer an early hour, like 8:30, while others prefer a later hour, like 9:00 or 9:30. Since the X and Y schools are exact duplicates, any family may choose either the early hour school or the late hour school. There are always enough families without a decided preference to balance the attendance at the two schools.

All churches and many settlement houses will be glad to provide and pay for religious instruction and social work during the week days in their respective churches and houses with special teachers in

charge, if they can secure their children regularly in groups during the entire day and each day of the week. Many mothers would like their daughters to give an hour or two daily to private music work, provided their children could go on with their class in the regular subjects and substitute the music for a part of the special school work. Many private music teachers would be glad to meet their students during school hours. Many homes would be able to use the time of children profitably for the home and the children, if they could secure their respective children at the right time. But the established school takes all of the children at one time just early enough and holds all of the children just late enough to prevent any other child welfare agency doing very much for them. Also the established school program requires the same effort from all children alike regardless of their outside duties.

The X and Y programs described permit children to leave the school during the auditorium, play and special work periods for duties elsewhere that are equivalent to the school work so displaced. In many instances the work substituted for the school activities is much more profitable for the particular children interested. I am aware that this privilege may be abused. In your worst tenement districts there might be a disposition to have the children come home for sweat-shop work. The school, not the parents, must determine whether the child is to be excused. There is no good reason why all children should be permitted a short school day if it is not for their personal good. We are not now concerned with the traditional school that forces all persons to do the same thing, in the same way and at the same time. *The new school is flexible and may be adapted to different types of communities and to the several individuals in a single school.* The children may have a long or a short day, early or late, academic work emphasized or shop work emphasized, all of their time in school or, if it is to the advantage of the child, he may have part of the school time out of school. Not many schools should be exactly alike. The standards for each school should be those demanded by the needs of the individual children attending that particular school.

An Elastic Program.

The purpose is to establish the framework of a school program that will be so elastic that any desirable combination may be made for both pupils and teachers. Forty-five, sixty, ninety minutes, or any other time may be used in place of fifty minute school periods. With a sixty minute school period the school day would be from 8:30 to 4:30. Two hundred and forty minutes of actual regular class room work is provided and a proportionate increase in the time given to auditorium, play and special work. The school is enabled to occupy as much or as little of the child's time as is found to be desirable. With the combination of work, play and study, the school can eliminate the destructive street and alley life and substitute therefor constructive, wholesome activities.

Any desired arrangement of auditorium, play and special work may be made. The following illustrates a type of school program

planned for a school with limited auditorium and play facilities and many children at churches for religious instruction:

X SCHOOL—MODIFIED PROGRAM.

24 classes, all grades, 1 to 8 divided into four divisions for special activities.

School Hours	Regular Activities	Special Activities		
	Academic 24 Classes	Auditorium	Play	Special Work and Church—4 Special Rooms, Library.
8:30- 9:15	Arithmetic Divs. 1, 2, 3, 4			
9:15-10:00	Language Divs. 1, 2, 3, 4			
10:00-10:45		Div. 1	Div. 3	Divs. 2 and 4
10:45-11:30		Div. 3	Div. 1	Divs. 2 and 4
11:30-12:30	24 Classes X School at Luncheon			
12:30- 1:30	Reading Divs. 1, 2, 3, 4			
1:30- 2:15	History Divs. 1, 2, 3, 4			
2:15- 3:00	Geography Divs. 1, 2, 3, 4			
3:00- 3:45		Div. 2	Div. 4	Divs. 1 and 3
3:45- 4:30		Div. 4	Div. 2	Divs. 1 and 3

Summary of Time Schedule.

PUPILS' TIME, MINUTES PER WEEK.

All pupils have forty per cent. more time in school

School Department	Division 1		Division 2		Division 3 and 4		
	X School	New York Minimum	X School	New York Minimum	X School	New York Minimum	
Academic	1200	840	1200	840	1200	Grade 1 | Grade 2	880 | 1090
Auditorium ...	225	75	225	75	225	75	75
Play	225	80	225	150	450	300	180
Work	450	280	450	250	225	Included in Academic Time.	
Total	2100	1275	2100	1315	2100	1255	1345
Full Time.....	2100	1500	2100	1500	2100	1200	1500

I do not wish to urge the adoption of any set form or design of program. The variety of ways in which greater opportunities for children may be secured through a work, study and play school is one of its chief recommendations. We need elasticity and adaptability in our school program and curriculum, not rigidity. The great problem is to learn what kind of a school our children should have, and we should always be learning.

Special Programs for Special Children.

Children who are not very strong physically may spend the entire day at school in play, special work, and any other activities that may help them to become well. A few cots and blankets should be placed in each school so that the children who need it may sleep out of doors in protected places during the school hours from which they may be excused. There is no good reason why children should not be sent to school as they would be sent to a sanitarium, to be developed and made well physically as well as developed mentally.

A large part of the following evils may be eliminated: keeping of children after school hours for make-up work, with the great waste of energy for both pupil and teacher; excessive home study; flunking pupils, which usually graduates them to the sidewalk. A boy in the eighth grade who is failing in percentage because he did not get the common and decimal fractions in the fifth or sixth grade may go on with his class in percentage in the X School. But when his class goes to the auditorium, play or special work, he may be transferred to a fifth or sixth grade class in arithmetic in the Y School. There is no good reason why all children should have exactly the same program either in school or in out of school activities. As far as possible, each child should have what he personally needs. If any boy needs one, two, three or four hours each day in arithmetic, English or physical training, he should be accommodated.

The regulation of this flexible program both in the school and out of the school is a very simple matter and soon becomes almost automatic. In fact, most of the need for exacting regulation and discipline in school disappears when the school ceases to be so exacting and attempts to serve its patrons in the way they want to be served.

All child welfare agencies that can meet the needs of the children as well as or better than the school should have the opportunity to get the children at any hour of the day and every day so that they may work at their maximum efficiency. The school should get out of the way of the other child welfare agencies and by co-operation with them serve as a sort of CLEARING HOUSE FOR CHILDREN'S ACTIVITIES.

When every class room, laboratory, shop, studio, playground, gymnasium, swimming pool, auditorium, library, museum, church, social settlement and home can be working at maximum efficiency all of the time, providing wholesome activities for children, then we may hope to teach all children the ART OF RIGHT LIVING.

Overcoming Inertia.

The only obstacles to securing such a co-operation of all child welfare agencies are a lack of comprehension of the changed industrial and social conditions in modern cities, and the failure to understand that public service institutions cannot be the private, exclusive possessions of individuals.

Individual families can no longer do for their respective children what the family formerly did for its children. The public must

supplement the efforts of the home and do for the children the things that the home cannot do. But the public must perform its work through public service institutions, and not in the private, individual, exclusive way of the family.

The public provides at public expense only those facilities that we can use in common and cannot afford to provide for our own, private, exclusive possession, because of the limited use that we are able to make of them. The only reason why the public, that is ourselves collectively, can afford to provide things for each of us individually that we cannot provide for ourselves privately is that collectively we secure a multiple use of the facilities. If we eliminate the multiple use, we cannot afford collectively anything that we cannot afford privately. We can provide for our private exclusive use a bedroom in our home because we use it eight to ten hours almost every night in the year. When we travel, however, we must use bedrooms in common with other travelers. We would not think for a moment of sub-letting our home bedroom to some one else when we cannot use it, but we expect our hotel bedroom to be sub-let when we cannot use it.

A few very rich persons may be able to afford hotel bedrooms reserved perpetually for their private, exclusive use, even though they seldom use them. The people collectively provided for Louis XIV the magnificent palace and park at Versailles. Without the multiple use of this property provided by the people collectively it was reserved for the exclusive enjoyment of one of their number. But the people all wished to share in this collective possession and through the French Revolution took possession of such private estates for the common use.

Public lighting systems, water-works, telephones, transportation systems, etc., are all an outgrowth of community effort for the common good. This change in the attitude of mind of the masses is the thing that has made possible modern commercial, industrial and social progress. We have constantly before us an enlargement of the principle of multiple service of public facilities. The idea is that increasing the number of persons using any public facility either under public or private ownership betters the service for all provided the load can be uniformly distributed during operating hours. The problem with a public lighting or transportation service is to eliminate peak loads as far as possible.

Peak Loads in the Public Schools.

The public school as it is now operated is not a public service institution of this type. In the school every administrative effort is made to increase peak loads and prevent the equalization of the load on all departments during operating hours. The so-called public school in many respects is the old time private school now maintained at public expense. Each child must have his own private desk, etc., for exclusive personal use, even though the combined use of all the school facilities will not total two and one-half hours a day for each of the

365 days of the year. The use of the auditorium will not average more than ten minutes each day of the year and the playgrounds barely an hour each day of the year.

The result of such a system is that many children are forced to attend school in basements and cellars; a large per cent. are in overcrowded, poorly ventilated and lighted school rooms; and many of those who are in fine buildings are in greatly overcrowded rooms. A favored few are in fine buildings without overcrowding, but they do not have the best use of their privately possessed facilities because the necessary operation charge under the conditions is prohibitive. These favored few in the fine schools without overcrowding are occupied in the wasteful, private, exclusive use of the facilities of the school for only two and one-half hours a day. The church, the settlement house, the Sunday school, the library and the public playground do not occupy the time of all the children, on the average, ten minutes each day for 365 days during the year, largely because of the rigid school program. While all of the child welfare agencies outside the home occupy the time of the children for barely two and one-half hours a day, the street and the alley have at least five hours a day. The street offers the major courses and the school the minor courses. The street is a most efficient school for educating the children in the wrong direction.

The private exclusive feature of the use of public school facilities has meant and will continue to mean that all of the people collectively can provide suitable school facilities for only a part of their number.

But the average city wants to provide the best school facilities, not for study alone but for work and play as well, for all the children. To succeed we must find a way to let the public use the public school institution in a public service way. More than one child must be able to use each facility during the school day and adults must be permitted to use them at night.

7. VOCATIONAL TRAINING.

Vocational training in the Elementary School means to me efficiency in all present school departments for all children from the kindergarten through the high school.

In Public School 89 we hope to provide better facilities for all the children in all of the school subjects. The academic and cultural studies will be emphasized as they have never been emphasized before. There is no thought of adding a vocational training department, but vocational training opportunities.

The additional opportunities in vocational training will be secured through an extension of your regular manual training departments. At present with only 80 minutes per week in manual training and a new set of pupils every period and every day of the week, the criticism of manual training is only a criticism of the conditions under which your manual training is being done. If you will provide better conditions for manual training and domestic science and art,

your regular established departments will expand and adapt their work to suit the vocational training needs of the children better than any separate and competing department will meet them.

I believe there is a place for the special industrial training school, but it should be a technical school for older students. You cannot make plumbers, carpenters or machinists of boys twelve and thirteen years of age. The minimum apprenticeship age for most trades is sixteen years. A large per cent. of the children who drop out of school do not have to go to work and would be much better off in school until they are sixteen. A work, study and play elementary school will keep them in school until they are sixteen. The most effective means of keeping children in school is to provide real work corresponding to life experience along with school instruction so that they may learn why they should remain in school.

The Child is a Natural Scientist.

Such life experience should begin for all children in the primary grades and continue throughout the entire school course. The child is a natural scientist. He is always observing, collecting and classifying. It is much easier to keep good impulses alive by constant exercise than it is to awaken them after they have died out through inactivity and in their place competing interests have developed through several years' loafing in the street.

A father purchased a double cylinder steam engine as a Christmas present for his ten-year-old son. They fired it up together. Soon the boy remarked, "Daddy, here is a first-class lever." The father was surprised to learn that the lad knew well the three classes of levers and that he was studying elementary science at school. The same engine was later handed to three seventeen-year-old boys with the request that they point out the levers. These boys had just completed four months of the high school physics course covering the subject of mechanics. But it was their first science work and they were engaged in the struggle of awakening lost interests. They looked the engine over from top to bottom, front to rear and side to side, handed it back and were unanimous in the opinion that there wasn't any lever there.

"The work of shop, kitchen, sewing room, accounting room and garden must be thoroughly intellectualized. The pupil workers must be brought to see in connection with every other factor and process of the work the mathematics involved, the science, the drawing and design and the economic relations. Technical information is for guidance. It is best learned during the process of guidance of actual work. It is learned for purposes of application. Only thus can mathematics, science, drawing and design be rightly known or seen in right relations. This learning in connection with application does not preclude discussion; it lays the only secure foundation for intelligent discussion and for the intelligent generalization of principles involved. Only out of concrete situations can one ever arrive at a generalization that has reality."

"Speaking generally, it can be said that we find the concrete practical activities over on the one hand very largely unilluminated with mathematics, science and design; and on the other hand we find this same science, mathematics and design given without concrete foundation or application. Two things that belong together are found divorced from each other. Neither can be educationally effective in any high degree until they are brought together."

Expensive Special Training for Older Children is Economically Futile While the Impulses and Interests of Younger Children Are Being Lost and Wasted.

We must spend our money at the bottom and at the middle of our school courses as well as at the top. Providing expensive schools for older children to reawaken lost impulses and eradicate acquired vicious interests is like trying to keep back the ocean tide with a broom. No amount of money spent for Vocational Schools or any other kind of school, at the top, will ever repair the damage done to the children forced to attend school in cellars, basements, assembly rooms and overcrowded class rooms or atone for the waste of their childhood in the street.

At sixteen, children who leave the school should have had experience in various industrial activities and in the sciences and arts so that they may know what they do not like as well as what they do like. Unquestionably the school should do what it can for the unfortunate few who must leave school to go to work at fourteen. The best thing that can be done for such children is to prevent their leaving the school by using as far as possible continuation and co-operative courses.

Two Recommendations.

These needs can be met at Public School 89 by doing the following:

First—Permit the part time manual training and domestic science teachers to give all of their time to this school and give all sixth, seventh and eighth grade children manual training and domestic science 100 minutes every day for one-third of the school year. While one-third of the students are in manual training and domestic science classes one-third should be in elementary science and one-third in drawing and music. The only increase in the cost of instruction is the placing of the manual training and domestic science teachers on duty in the one school full time, in place of half time.

Second—The regular manual training shop work should be supplemented by co-operative courses between the school manual training shop and the workmen employed on school repair and construction work. *The school repair and construction work should be done as far as possible when the children are in school. By association all children will learn something of the industrial activities involved in such repair and construction work.*

The manual training teacher may ask his boys if they would like

to know what the work of a real carpenter is like. They are not asked if they want to be carpenters. They are told that a carpenter will come to the school on a certain day to do certain work about the building. Two or three boys may be selected to secure a job with this carpenter as helpers. These particular boys directly and the entire class indirectly now need instruction as to the right way to apply for a job. When they begin work they keep a record of what they have learned each day by observation, asking questions, and direct experience. When they return to the manual training class, because the work is finished or they give up their jobs to other boys, the carpenter's trade is discussed from every standpoint. The same program is followed with the school plumber, cabinetmaker, electrician, heating man, steam fitter, sheet metal worker, painter and decorator, plasterer, mason, cement man, glazier, etc. Intelligence concerning trade activities is developed by working with real workmen on real work and studying each trade in a systematic way. The reports made in the manual training shop may be presented in the auditorium by the boys and by the workmen themselves.

No workman should be permitted to earn more than his salary and the cost of his material. The help of the boys should only balance the time required by the boys from the workman.

The school engineer may have boys studying the heating, lighting and ventilating plant in the same way. The school clerk may have several children assisting in turns with the clerical and store room work of the school. Students may assist in managing the auditorium, as science laboratory assistants, as assistants on the playground and in the drawing and music studios. The community activities of the school provide the need for children to assume responsibility; to do things accurately, promptly and regularly; and to become familiar with tools, processes and general industrial and commercial conditions. The girls in the domestic science classes may assume the responsibility of running the school lunch rooms and the business training so secured will round out and complete the training secured from the domestic science classes.

You might as well try to teach children to swim without water in which to swim as to try to teach them to work without real work to do. The child must not only have a place to work, tools to work with and a master workman to direct his work, but there must be real work to do, and it must be done under normal industrial conditions.

Experience in Real Work Under Normal Industrial Conditions Should Be the Foundation for Vocational Guidance.

Many a boy goes into the electrical industry from the school electrical shop with the idea that he knows quite well the trade and that it is above all things else the very thing that he wishes to do. Since he has not learned to build motors, generators, etc., he will be placed at work on the transmission lines. The first time he is asked to climb a pole it is discovered that he cannot work off the ground on account of dizziness. The first time he goes down into a tunnel and

comes out covered with grease he may decide that he has made a big mistake in choosing his vocation.

I once placed in a machine shop a young man twenty years old who had been recommended as exceptional for the machinist's trade by his school instructor. The young man was so sure that he wanted to be a machinist that he made every preparation to settle down for a life's job. The manager of the shop gave him the privilege of selecting the type of work that he wished to do and offered to change him to other work any time at his request. The boy could not be induced to stay with the work more than a week, and is now happy as a government surveyor, engaged in field work.

One week of two hours a day on a real job with a real workman is worth more from the standpoint of vocational guidance than two or three hours a day every day in the year in an artificial shop working on artificial work and under artificial conditions, even though a master workman is in charge.

Cooperative Courses Between the School Manual Training Shop and the Workmen Employed on School Repair and Construction Work Will Develop Naturally and Economically.

The boys may receive their credits for work done with workmen through a system of time keeping and school credit checks which illustrates the relative earning power of various activities and provides additional vocational training opportunities. The School Building Department will find it advantageous to establish a shop in a central location for the sheet metal man, also for the electrician, the plumber and each of the other workmen. These shops should be established because they are necessary for the economical handling of the school repair and construction work. Later it will be proven that a foundry, forge shop, machine shop and pattern shop will add to the efficiency of the department from the standpoint of getting the work done. So the educational opportunities are expanded by every increase in efficiency in handling this school repair and construction work.

There is no objection to the addition of shops beyond the actual needs of the repair and construction department, if you can afford them. In fact, co-operative courses can be eliminated entirely. My judgment is, however, that the amount of absolutely necessary repair work in the schools of the types mentioned is sufficient in quantity to provide all of the vocational training opportunities for the elementary school. Any group of ten or twelve average school plants has appropriated for 1915 for repairs, construction and supplies a sufficient amount to employ eight or ten workmen for the school year as employees of the Building Department. Each workman should be held responsible for the satisfactory condition of the buildings of the group in his division. It is largely an individual building unit proposition and in my opinion can be applied to any number of buildings and the work can be done with less overhead charge and more economically than it can be done under a contract system.

All that I desire is that the department give the plan a trial

under fair conditions. *The schools are asking private industries to help train the students in co-operative courses. Why cannot the school do in its own business departments what it expects private enterprise to do?*

"If it is objected that students cannot do good enough work, it must be observed that if their work is not good enough for the schools then they are not sufficiently educated to turn out into the world of economic industry. Simply, their education is incomplete. Responsibility rests on the schools to perfect it. And the having of such real work to do offers the best possible educational opportunity. The school may also object that such work is slow. If well done, it usually is. The school must exercise foresight and plan a long way ahead. Educational opportunities must not be thrown away merely because it is easier to throw them away than to utilize them. Such action is an evasion of responsibility and done merely because the work would be difficult. It is difficult, it is true. The world presents no tasks more difficult than those of real education. To direct a group of embryo workmen, using valuable material that must not be wasted, turning out a product that is to be permanent, intellectualizing all the processes so as to build at the same time permanent educational structures within the boy, so to speak—all this constitutes a form of labor immensely more difficult than the labors of the usual construction foreman who is looking to but one-half as much product and is getting that half from men already trained. If the community is wise, however, it is not going to permit our profession to shirk responsibility merely because it is difficult. It will not permit us to palm off a combination of book work and play shop work as 'just as good' when it is really an inferior and ineffective substitute."

The community activities of Public School 89 are sufficient to give one hundred and sixty children two hours' instruction each day in small groups of four to six students each. Three hundred and twenty hours' instruction are thus secured daily at no cost for salaries or material. This is equivalent to the work of three full time traditional vocational instructors. A traditional vocational instructor at established wages receives approximately ten cents per hour for each student taught. Ten cents per hour for only six students will pay the wages of the average workman and give him a class small enough to make possible real productive work. But the instruction with the workman does not cost anything since the workman earns his wages in productive work, and the three hundred and twenty hours secured are worth several times that amount of traditional vocational education instruction.

The habit formed in school of securing jobs under the direction of the manual training teacher is continued when the child leaves the school. The student should be kept in school at least part of the day until he secures a job. When he is out of work he should return to school for part time or full time until he secures another job. The wage earning child should feel free to discuss with the manual training teacher at all times his ambitions, obstacles and progress in indus-

try. Such a relationship helps to bring about naturally the continuation and co-operative courses for wage earning children.

Industrial Education for Girls.

The problem of industrial education for girls is much more difficult than that for boys. Women are not industrially free. Until the artificial barriers are obliterated that now limit the activities of women no complete solution can be found. All girls need to be trained well in the art of home-making. But some of them may never run homes and many of them must be wage earners before they have a chance to make homes. Even in the office work of many industries it is important that girls know something of industrial shop practice. There is no reason why girls should not have short courses in some of the shops planned for boys. Attending school in a boys' industrial school enables girls to secure a viewpoint of industrial processes that may be of great value to them.

Some Dangers to be Avoided.

It would be a simple matter in the school to teach so many children one certain trade that there would be no market for the labor. One of the advantages in limiting the industrial training in the school to the school community industrial needs is that the several industries in the school have approximately the same ratio to each other that these industries have to each other outside of the school. The opportunities to teach plumbing from the school work are in proportion to the need for plumbers. The same is true of electricians, painters, etc. Continuation and co-operative courses have the same natural check upon the unwise emphasis upon any one trade. The only safe rule in industrial training is to keep the school and the shop working together, each supplementing the other.

There is a great danger that public funds may be used to teach large numbers of children certain highly specialized activities that they will never use, when their time might have been spent much more profitably. Power machine sewing is unquestionably a good thing for the girls in the Manhattan Trade School. But an unwise extension of power machine sewing to the average elementary school might not serve the best interests of a large majority of the girls.

There is also a great danger that young children may make a playhouse of school shops under wrong conditions. There is a great danger that work may be attempted far in advance of their stage of development. Children may be unfitted for almost any type of industrial training by a wrong start.

The industries taught in the school should be selected because they serve as a foundation for mastering the processes of other industries as well as offer opportunities for employment in their own field. Good manual training courses serve as foundation courses, but they do not train for immediate employment. But the immediate employment factor should be secured by supplementing manual training courses with real shop experience, not by throwing the manual training away.

Practical science and drawing courses develop principles that have a common application to all industries. Science courses should receive as much time and be favored with as good equipment as shop courses.

The study of industry now under way in connection with your continuation and co-operative classes will furnish very valuable information. So will the study of the common principles in groups of industries, if it is completed. If such information can be secured, it will make the establishment of school shops something more than a guessing contest.

8. CONCLUDING RECOMMENDATIONS.

In conclusion I wish to call special attention to the following: When Public School 89 was visited by President Churchill, Dr. Maxwell, Dr. Ettinger and others, and it was decided to attempt a reorganization, two physical training teachers were immediately provided at my request as extra teachers. This was necessary for starting the demonstration. The other needs of the school were not so urgent and they could well wait for the regular procedure. No time has been lost, but it is now necessary to expedite matters.

I wish the following to be considered by the proper committees and other authorities as soon as possible:

- 1—Full time for manual training and cooking teachers, with permission to give instruction as described on page 26.
- 2—Branch of public library with trained librarian in charge.
- 3—Special Activities departmentalized so that the physical training teachers will not be extra teachers, as shown on page 9.
- 4—Permission to use the community activities of the school for Vocational Training, as described in last section of report, pages 25-31.
- 5—Permanent improvements as requested on page 5 and 6.
- 6—Manual Training shop work supplemented by school repair work; see pages 25-31.
- 7—Schools for additional demonstrations.

Note—The quotations are from the South Bend School Survey by Dr. John Franklin Bobbitt.

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Report Upon a Proposed Reorganization for Public Schools Nos. 28, 2, 42, 6, 50, 44, 5, 53, 40, 32, 4, and 45, the Bronx, New York City

This group of twelve schools, I am informed, is the most congested of any group of twelve schools in New York City. There are only 25,331 sittings in these schools and 35,580 children were registered Dec. 31, 1914,—10,249 more than sittings. The registration is 140% of the sittings. But 2,500 of the present sittings, representing fifty class rooms, are unsatisfactory. There are 779 classes in the schools and only 480 satisfactory class rooms. The classes are 162% of the satisfactory class rooms.

Two new buildings, Public Schools 54 and 55, are under construction and a leased school building of fifteen class rooms is nearing completion. These three buildings will provide accommodations for 4,500 children and 103 additional classes. When these three buildings are completed there will be 583 satisfactory class rooms for 779 classes. The registration of the twelve schools increased 4,000 pupils from Dec. 31, 1913, to Dec. 31, 1914. At the present rate of increase the new buildings will not take care of the increase in school attendance during the construction of the said buildings. Four new buildings in addition to those under construction are needed now to give each child attending the schools a satisfactory school seat. Because of financial limitations the Board of Education is asking for only six new elementary school buildings for the entire city, and two of the six, to cost approximately \$1,000,000.00, are proposed for the relief of the twelve schools named. If the two additional schools requested, together with the three under construction, could be made ready for use tomorrow, there would still be 4,000 children without satisfactory seats and no provision for normal growth in the immediate future.

A NEW TYPE OF ORGANIZATION NEEDED.

At the request of President Thomas W. Churchill, Commissioners Frank D. Wilsey and John Martin, of the Board of Education, I herewith submit a plan for the reorganization of the twelve schools named so that 1,022 classes may be satisfactorily accommodated in place of the 583 now provided for.

Under the New Organization unsatisfactory annexes are vacated and unsatisfactory class rooms are used for auditoriums, play rooms, laboratories and workshops. In place of the 779 classes and 35,580

children now in the schools, room will be secured for 243 additional classes and a total registration of 46,000 children. A future increase in school registration of approximately 10,000 children will thus be provided for.

To accomplish this reorganization rather extensive annexes are necessary at Public Schools 45, 4, 40 and 32, costing approximately \$475,000.00. The remaining eight schools need only slight structural changes and additional equipment costing approximately \$44,500.00. Additional land should be purchased at Public Schools 45, 32, 40 and 53, costing approximately \$225,000.00.

The cost of the four annexes, the remodeling, the equipment and the additional land will be \$250,000.00 less than the cost for buildings, equipment and sites for the proposed two new schools. If the proposed two new schools plan is followed, a total satisfactory capacity on a five hour single school system for 671 classes will be secured, which is 108 classes short of present enrollment. If the reorganization at less cost than the two new schools plan is followed, satisfactory accommodations and a longer school day will be secured for 1,022 classes, which is 243 classes more than are now enrolled,—a difference of 351 classes and 16,000 children.*

GREATER EDUCATIONAL FACILITIES.

The true economy of the New Organization is to be found in the greater educational facilities provided for all of the children rather than in the great capacity of the plants secured under the new plan.

The upper grades, 511 classes, will have a daily school program of the following type: eighty minutes in class room for academic work, forty minutes in gymnasium or play yard or grounds for physical training and play, forty minutes for general exercises in the auditorium, sixty minutes for luncheon, one hundred and forty minutes in class room for academic work, and eighty minutes for drawing rooms, science laboratories, or manual training and workshops. The lower grades, 511 classes, will have a program of the same type as the upper grades except that the last period of eighty minutes will be given to play, excursions, library work, church instruction, or to work at home. As a rule the children will have 380 minutes at school in addition to the luncheon hour in place of the 300 minutes provided in the regulation full time school. Such a study-work-and-play school removes the children very largely from the demoralizing life of the street and gives ample time for the academic, physical and pre-vocational training.

Under the old regular full time organization only manual training and cooking construction shops are provided and for seventh and eighth grades alone. Science laboratories for individual work and drawing studios with special equipment are not provided at all.

Under the New Organization manual training, cooking and sewing

*The increase in capacity is estimated by classes. Since the register is 45.6 children per class a reduction to 42 children per class will enable the 1,022 classes to accommodate 42,924 children, 7,344 more than are now enrolled in the school.

construction shops, drawing studios with special equipment, and science laboratories for individual work by students are provided for all grades above the fourth year. Besides there will be sixty-three additional workshops with special equipment and teachers distributed advantageously in the twelve schools. Also, there will be provided gardens, better auditoriums and music rooms, better class rooms, gymnasiums and playgrounds, and five swimming pools.

It is desirable under the new organization for one class of older students during each of the eighty minute periods for vocational training to be distributed throughout the school as teachers' assistants. The several classes perform this duty in turns, so that each child acts as teacher assistant during the shop period for approximately four weeks each year. Such work gives the student the best possible training for developing leadership, initiative and the ability to assume responsibility. It also makes possible many small classes without extra teachers and without extra rooms.

COMPARISON OF TIME SCHEDULES IN GRADES OF THE 5th, 6th, 7th AND 8th YEARS.

Average number of minutes per week under regular full time organization in New York City.	SUBJECTS	Average number of minutes per week under New Organization Bronx Schools.
75	Opening Exercises	100
60	Music	100
120	Physical Training, Recesses	
1010	Physiology and Hygiene	200
	English, Geography, History and Arithmetic.	1100
80	Nature Study and Science	133
85	Drawing	133
70	Construction Work	134
1500	Total Time Per Week	1900

DESCRIPTION OF THE TWELVE SCHOOLS.

Ungraded classes are listed as regular classes, as it has been determined that a school program of work, study and play is desirable for these students. Kindergarten, blind, open air, deaf and cripple classes are not listed in the reorganization. Where these special classes are now occupying unsatisfactory basement rooms, etc., provision is made to transfer them to desirable class rooms. In addition to class rooms for the regular classes noted in the reorganization of the several buildings, satisfactory facilities are provided for all of the special classes that are now being accommodated, but no provision is made for additional special classes except at P. S. 44.

A map of the district including the twelve schools is attached to this report as Exhibit A.

Public School No. 28, Bronx.

Public School 28 has fifty-eight regular classes in forty-five regular class rooms, one wood working shop and one cooking room.

The ground floor, play yard and the fine basement play room provide ample play space for nine classes at one time. There is a large

gymnasium on the top floor that is not desirable for play, and should be used for drawing rooms.

The auditorium on the fourth floor should be made into six regular class rooms by installing permanent partitions for the sliding partitions. The wall partitions should be removed from the four combination auditorium and class rooms on the second floor and the auditorium thus secured should be seated for a permanent auditorium. Since four class rooms are thus used for the auditorium there will be left only forty-one regular class rooms. Thirty-six of these should be used for regular class work, two of the remaining five class rooms should be used for science laboratories, one for a music studio and two for workshops. These five special rooms, with the manual training shop and cooking room and drawing studios, will provide facilities for nine classes in science, drawing, music, manual training or shop work at one time. Seventy-two regular classes may be accommodated in this school with thirty-six classes in thirty-six class rooms, nine in the auditorium, nine at play, nine in special work, and nine primary classes with an extra period for play, religious instruction in churches, excursions, library work, etc.

With a full register of classes seventy-six teachers should be employed. Fifty-six teachers should teach the history, geography, arithmetic, language and reading, and manage the auditorium. Two teachers should have charge of the music, four of the play and physical training, one of the library, two of the drawing, two of the science laboratories, and nine of the manual training, domestic science and art and the shop work.

There are thirteen regular classes in the eight-room frame annex which must be used for class purposes in order to enable the city to hold the property. A special program can be arranged for this annex to accommodate twelve classes. Public School 28 and the annex can therefore accommodate eighty-four classes, a gain of thirteen classes over the present enrollment, and thirty-one classes more than the normal capacity of fifty-three classes in a single school system.

The only expense will be the placing of permanent partitions in the auditorium class rooms, and the equipment of the auditorium, laboratories, studios and shops,—approximately \$10,000.

Public School No. 2, Bronx.

Public School No. 2 has fifty-nine classes in fifty-two class rooms and an undesirable six-room annex. The annex should be vacated.

There is ample play space for nine classes at one time in the basement play yard, and there is a small park adjacent to the school lot. The school gardens should be in Crotona Park.

This school, unfortunately, is adjacent to the elevated railroad and twelve class rooms are practically impossible for school work. Three of these twelve class rooms should be used for play rooms and the remaining nine rooms should be used for workshops, drawing rooms and laboratories. A permanent auditorium should be constructed from four combination class rooms on the first floor and so

arranged that it will be protected from the noise of the elevated railway. Thirty-six desirable class rooms will remain for regular class work and seventy-two classes may be accommodated. This is twelve classes more than the present register and thirty-two classes more than the capacity of the school on a single system five-hour program.

The cost for equipment and remodeling should be approximately \$7,500.00.

Public School No. 42, Bronx.

Public School No. 42 has seventy-five classes in forty class rooms and a six-room annex. A gymnasium, four shops, and a play yard large enough for five or six classes at one time are available.

It will be necessary to take four of the forty class rooms for an auditorium. Sixty-four classes may be accommodated by using thirty-two rooms for regular class work and the remaining four class rooms and the four shops for special work. Either Claremont or Crotona Park may be used for large playground and gardens.

The cost for equipment and structural changes will be approximately \$5,000.00.

At present there are sixty-three classes in the building, with twelve additional classes in an annex that I understand is not satisfactory for school purposes. The annex should be abandoned when new Public School 55 is completed.

Public School No. 6, Bronx.

Public School No. 6 has forty classes in thirty-one class rooms, one manual training room and two portable schools. The play yard is ample for six classes at play.

Four of the combination class rooms should be equipped for a permanent auditorium. This will leave twenty-seven class rooms. Twenty-four should be used for regular class work, and the remaining three class rooms and the manual training room and two portables should be used for laboratories and shops. Satisfactory accommodations may thus be provided for forty-eight classes, an increase of eight classes over present register and seventeen classes over normal single school system.

Cost for equipment and structural changes will be approximately \$5,000.00.

Public School No. 50, Bronx.

Public School No. 50 has sixty-nine classes in forty-four class rooms, two shops, a fine gymnasium, auditorium and play yard.

Seventy-two classes may be accommodated by using thirty-six class rooms for regular work and the remaining eight class rooms and two shops for special work. The number of classes may be increased three over present register, and twenty-eight over normal single school system.

The cost for additional equipment will be approximately \$5,000.00.

Public School No. 44, Bronx.

Public School No. 44 has sixty-nine classes in forty regular class

rooms, two shops, a fine auditorium, gymnasium and play yard. Crotona Park can be used for large play ground and for gardens.

Sixty-four regular classes may be accommodated by using thirty-two rooms for regular class work and the two shops and six class rooms for special work. Two class rooms will be left for abnormal classes. Five regular classes should be transferred to adjacent schools.

The cost for additional equipment will be approximately \$3,500.00.

Public School No. 5, Bronx.

Public School No. 5 has twenty-seven classes in nineteen regular class rooms, a good auditorium and two portable buildings. Four classes are now using the auditorium as class rooms with only curtains for partitions. There is play space in the basement play yard for six classes to play at once.

By removing the portable buildings a satisfactory outdoor playground can be secured. The basement has a fine shop room large enough to accommodate two small shops. In these shops and the nineteen class rooms and auditorium and play facilities, thirty-two classes may be accommodated by using sixteen of the most desirable rooms for class rooms. This is five classes more than are now in the school and thirteen more than the capacity of the main building on a five-hour single school system.

The cost of moving the portables should be charged to the school to which they are moved. The cost for equipment and remodeling should be approximately \$5,000.00.

Public School No. 53, Bronx.

Public School No. 53 has fifty-nine classes in forty-four class rooms, two shops, a fine auditorium, gymnasium and play yard.

Seventy-two classes may be accommodated by using thirty-six rooms for regular class work and the remaining eight class rooms and the two shops for special work. The capacity of the school may be thus increased by thirteen classes over present register and twenty-eight classes over register on single system five-hour school.

The cost for additional equipment will be approximately \$3,500.00. Since the school is not near a park, additional land should be purchased for a large playground and for gardens.

Public School No. 40, Bronx.

Public School No. 40 has ninety-six classes in fifty-seven class rooms and two work shops. There is a satisfactory play yard and a small gymnasium.

The present combination class rooms and auditorium cannot be used for auditorium purposes and should be given permanent partitions for class rooms. Land should be purchased adjoining the present lot and an annex should be constructed containing an auditorium, gymnasium, swimming pool, two workshops and a library. Ninety-six classes may then be satisfactorily accommodated by using forty-eight

rooms for regular class work, and the remaining nine class rooms and four workshops for special work.

The annex and equipment will cost approximately \$75,000.00. The land will cost \$22,500.

Public School No. 32, Bronx.

Public School No. 32 has sixty classes in thirty-eight class rooms, one workshop and one cooking room. Five class rooms and one cooking room are now in a gymnasium with only curtains for partitions. Three class rooms are unsatisfactory basement rooms, one is an unsatisfactory attic room, and twelve class rooms are combination auditorium and class rooms.

By placing permanent partitions in the combination auditorium class rooms twenty-nine satisfactory class rooms and five shop rooms may be secured. The gymnasium and play yard are ample for a large school. The building is close to Bronx Park for large outdoor play yard and for gardens. The present site can be enlarged without great cost. I believe that it is desirable to make Public School 32 a seventy-two class school, which will enable it to accommodate twelve more classes than are now in the school.

An annex should be built containing a swimming pool, an auditorium, five shops and seven class rooms, costing approximately \$100,000.00. The additional land will cost \$35,000.

Public School No. 4, Bronx.

Public School No. 4 has eighty-two classes in forty-six class rooms and four-room annex. The school is greatly crowded, but has a very fortunate location adjacent to Crotona Park. The ground floor play yard is large enough for nine or ten classes at play at one time.

The elevated railway in the rear of the building is very objectionable on account of the noise. Since there is ample space for an annex, a building which would include two swimming pools, two gymnasiums, an auditorium, and twelve class room units for special work, could be built between the elevated and the present building. The present building would thus be protected from the noise of the railway and the annex could be planned with a blank wall next to the railway.

Forty-four class rooms should be used for regular work, while eleven classes are in the auditorium, eleven at play and eleven in the fourteen special work rooms. Thus, eighty-eight regular classes can be accommodated.

The cost of the annex and equipment will be approximately \$150,000.00. As a rule I do not favor spending so much money on an annex, but at Public School No. 4 an annex is necessary to eliminate the noise from the elevated railway, land for the site is now owned by the city, and since the park is adjacent to the school for play and gardens, it is desirable to concentrate a large number of children in this school.

Public School No. 45, Bronx.

Public School No. 45, Bronx, has seventy-two classes in forty-one regular class rooms, one manual training workshop, one cooking room, a fine auditorium, a play yard and a gymnasium. With seventy-two classes in forty-one class rooms, the majority of the children were accommodated on a part-time program.

Public School 45 was selected as one of the seven pre-vocational training experimental schools. Owing to its very great over-crowding it was planned to construct two workshops adjacent to the present building and to lease six class rooms in a nearby parochial school under construction. By transferring the pupils occupying six class rooms in Public School 45 to the leased school rooms, the six class rooms so vacated in Public School 45 could be used for pre-vocational training workshops. The delay in the completion of the parochial school prevented the reorganization of Public School 45, and finally it was decided to reorganize the school and retain all of the pupils in attendance. The reorganization was completed February 25, 1915, without any additional equipment or building facilities. The Bureau of Buildings was of the opinion that since the community needed additional school accommodations it would be much more economical to build a regular annex to the present school than make expensive structural changes in the present building and construct the two workshop annexes.

The annex should include a swimming pool and a forge shop on the ground floor; a pattern shop, a foundry and machine shop on the second floor; two drawing rooms and two science rooms on the third floor; four class rooms on the fourth floor and four class rooms on the fifth floor.

The school now has the following pre-vocational training shops under process of equipment: cooking, sewing, millinery, printing, carpentry, gardening, pottery, manual training, two science laboratories and two drawing rooms. By adding a forge shop, a pattern shop, a foundry, a machine shop, two science laboratories and two drawing rooms, the school will have a very satisfactory equipment for a pre-vocational school.

A plot of ground approximately one hundred feet by ninety-five feet adjacent to the present building can be purchased at a very low cost. The proposed annex will cover half of the tract and the other half can be used as a garden. The present school garden is on land loaned temporarily to the school and may be reclaimed by the owner at any time.

At present the building is over-crowded with seventy-two classes even under the reorganization, because only seven rooms are available for the nine classes in science, drawing and shop work. The proposed annex will provide accommodations for sixteen additional classes, and at the same time enable the school to furnish satisfactory accommodations for eighty-eight classes.

The value of the accommodations for sixteen additional classes

should pay the complete cost of the proposed annex, approximately \$150,000.00. The real economy of the improvement, however, is to be found in the better school accommodations provided, and for eighty-eight classes with a much richer schedule of activities in place of forty-one classes on the regular full time single school system.

All of the classes will have a school day of 380 minutes in addition to the luncheon hour. The forty-four upper grade classes will have a daily school program of 220 minutes for reading, arithmetic, language, history and geography; forty minutes for play and physical training; forty minutes for auditorium exercises, and eighty minutes for science, drawing, or shop work. The regular school hours are from 8:30 to 3:50, but the after school athletic center is open until 5:30.

THE REORGANIZATION PROGRAM.

Following are the X and Y programs in use at Public School 45. Similar programs are planned for the other schools.

X School.

School Hours	36 Class Rooms, Divisions 1, 2, 3 & 4	Auditorium	Gymnasium, Playground, Playroom	1 Man. Training, 1 Cooking, 2 Science, 2 Drawing, 1 Sewing, 4 Shops	Church, Home, Excursions, Library, Play
8:30- 9:10	Arith.				
9:10- 9:50	Lang.				
9:50-10:30		Div. 1	Div. 3	Div. 2	Div. 4
10:30-11:10		" 3	" 1	" 2	" 4
11:10-12:10		All at Luncheon			
12:10- 1:10	Read.				
1:10- 1:50	Hist.				
1:50- 2:30	Geo.				
2:30- 3:10		Div. 2	Div. 4	Div. 1	Div. 3
3:10- 3:50		" 4	" 2	" 1	" 3
3:50- 5:30		After School Athletic Center			

Summary of Time Schedule.

The average time for arithmetic, language, reading, history and geography in New York City Schools is 200 minutes.

Divisions	NUMBER OF MINUTES.				
	Class Time	Aud.	Play	Special	Play. Etc.
Div. 1, 9 classes, grades 4B to 8B	220	40	40	80	
Div. 2, 9 " " " "	220	40	40	80	
Div. 3, 9 " " 1A to 4A	220	40	40		80
Div. 4, 9 " " " "	220	40	40		80

Y School.

School Hours	36 Class Rooms, Divisions 1, 2, 3 & 4	Auditorium	Gymnasium, Playground, Playroom	1 Man. Training, 1 Cooking, 2 Science, 2 Drawing, 1 Sewing, 4 Shops	Home, Excursions, Church, Library, Play
8:30- 9:10		Div. 1	Div. 3	Div. 2	Div. 4
9:10- 9:50		" 3	" 1	" 2	" 4
9:50-10:30	Arith.				
10:30-11:10	Lang.				
11:10-12:10	Read.				
12:10- 1:10		All at Luncheon			
1:10- 1:50		"Div. 2	Div. 4	"Div. 1	Div. 3
1:50- 2:30		" 4	" 2	" 1	" 3
2:30- 3:10	Hist.				
3:10- 3:50	Geo.				
3:50- 5:30		After School Athletic Center			

Number of School Room Units Required.

Thirty-six class rooms are used for the regular class work in arithmetic, language, history and geography. Two rooms are used for science laboratories, two for drawing studios and one for sewing. With one manual training shop and one cooking laboratory only seven rooms are available for the special work of nine classes. Therefore, the millinery classes are now using the men's rest room, the classes in printing and carpentry are using the basement, and in pottery they are using a corner of the play yard. The annex will provide ample facilities for all shops and laboratories.

Number of Teachers Required.

Thirty-six classes must be taught for ten periods daily in the academic department, a total of 360 teaching periods. Four teachers manage the auditorium for eight periods during the day, a total of thirty-two teaching periods. Therefore, a total of 392 teaching periods are required for the academic instruction and the auditorium. Since each teacher can teach seven periods during five hours, fifty-six teachers will be required for the auditorium and the academic instruction. In Public School 45 there were employed seventy-two regular class teachers, two manual training teachers and one cooking teacher. By assigning fifty-six of these seventy-five teachers to academic instruction and auditorium work, four to playground and physical training, one to music, two to science, two to drawing, and eight to shop work and manual training, the number of teachers remains the same as before the reorganization.

SUMMARY OF REORGANIZATION.

Public Schools Nos.	Satisfactory Class Rooms	Present Classes	Class Capacity Secured	Cost of Reorganization	Regular Teachers	Music Teachers	Play Teachers	Science Teachers	Drawing Teachers	Shop Teachers
28	53	71	84	\$ 10,000	68	2	4	4	2	8
2	36	59	72	7,500	56	2	4	4	2	8
42	40	75	64	5,000	50	2	3	3	2	7
6	31	40	48	5,000	38	1	3	2	2	4
50	44	69	72	5,000	56	2	4	4	2	8
44	40	69	66	3,500	52	2	3	3	2	7
5	19	27	32	5,000	25	1	2	1	1	4
53	44	59	72	3,500	56	2	4	4	2	8
40	57	96	96	75,000	75	3	6	4	4	9
32	29	60	72	100,000	56	2	4	4	2	8
4	46	82	88	150,000	69	2	5	4	3	9
45	41	72	88	150,000	69	2	5	4	3	9
54	44		72		56	2	4	4	2	8
55	44		72		56	2	4	4	2	8
Annex	15		24		19	1	1	1	1	3
Totals	583	779	1,022	\$519,500	801	28	56	50	32	108
Cost of land				\$225,000						

Since the reorganization provides accommodations for 46,000 children, and only 35,580 are in the schools, only the teachers necessary for the present classes will be employed. With a full registration of 46,000 children 1,075 teachers are shown as employed for 1,022 classes, an apparent excess of fifty-three. Fifteen of the shop teachers are the practical women in the domestic science departments who earn their salaries in the school luncheon rooms. As far as possible the shops do the school repair and minor construction work, so that the salaries of a number of men will be earned in the shops. The remaining apparently extra teachers are more than balanced by the usual teachers of special subjects and the supervisors who are eliminated.

PRE-VOCATIONAL TRAINING.

In the reorganization it is planned for all schools to include the kindergarten and eight common school grades. All schools of sixty-four classes and over should also include two years beyond the common school courses, and these extension courses should be open to all students who do not care to go to the regular high schools. The shops, laboratories and drawing studios of these schools are sufficient for pre-vocational courses for all students between fourteen and sixteen years of age.

A total of fifty science teachers, thirty-two drawing teachers, and one hundred and eight shop teachers are employed in all of the schools. Manual training and domestic science and art should be taught in all schools, thus requiring sixty teachers for these subjects. One pattern, one foundry, one forge, two machine, two sheet metal, two electrical, two plumbing, two carpentry, two cabinet, three

painting and three printing shops are sufficient for the entire group. Twenty-seven additional shops must be selected to complete the list, so that a great variety of shop work will be provided. All students in the upper 511 classes may have eighty minutes every day for shop work, drawing or science. If they wish, this eighty-minute period might be given to additional instruction in academic work. If desirable for certain types of students, they may have one hundred and sixty or more minutes daily for shop work, drawing or science. Each child should have the type of work and the quantity that he individually needs. This pre-vocational training is secured without extra teachers and with an economy of building space.

Pupils in the upper grades may attend the school offering the special shop work desired. Much more complete pre-vocational opportunities are thus secured for the entire district than would be possible in a special pre-vocational school.

All Children Should Have Opportunities for Prevocational Training.

As I understand the school problem in New York City, it is considered desirable to enlarge present school opportunities for the many children who cannot follow regular scholastic training through the eight years of common schools, the four years of the high school, and the four years of the college. A difference of opinion seems to exist as to whether the children who cannot go to high school and college should have the opportunities for the kind of training that they need in the regular elementary school, or in a separate pre-vocational school. This segregation of students may be effected by placing the students either in a distinct department in elementary schools or in entirely separate buildings.

Nearly all children, however, like to work in shops, drawing studios and science laboratories. In fact, the best students in the workshops, drawing studios and science laboratories are often found in the ranks of the students who do go to college. I believe that it has been conclusively demonstrated that such work is as valuable and desirable for students who go to college as for students who go into industry and commerce. But it has also been demonstrated that when the shop work and drawing are substituted for mathematics and language, as is often the case in the effort to include these additional activities in the short school day, the prospective high school and college students suffer from the lack of the vitalizing reaction of a sufficient amount of shop work and science upon their mathematics, etc. On the other hand, the student who plans to go into commerce and industry suffers from the lack of time for the thorough, scientific, mathematical and language training necessary for proficiency in the shopwork and later success in industry and commerce.

The School Must Do Today What the School, Home, and Small Shop Formerly Did Together.

Children formerly were in school five hours a day for 190 days, 950

hours each year, with about 200 minutes daily for arithmetic, language, history and geography; and 100 minutes for opening exercises, play and rest, science, music and drawing. Outside the school these same children to have some work and some play along with their study. in useful work for probably more than 950 hours each year.

It was the industrial training in the home and small shop that made children of the past generation reliable, industrious, physically strong and contributed much to their general intelligence. The schools plus the home and the small shop educated the child. Today the small shop has been eliminated and the home has lost many of its former opportunities for industrial training. A much greater part of the education of the child must be assumed by the school of the present generation. In place of the school, home and shop, we have today the school and the city street educating the great masses of children by industrial training in the school. The students of the consequently the children as a rule are thrown into the street for the time formerly used by the home and the small shop.

It is true that we have in the schools a little manual training and are now talking about pre-vocational and vocational training. But the school still considers the problem entirely from the standpoint of how to do a little of the industrial training with the least disturbance of its traditional program and with the least inconvenience to itself. What we really need, however, is a complete reorganization of the entire elementary school system to meet new conditions. Patch work will not do, and besides it is expensive. Under such reorganization, the school would do what the school, home and small shop formerly did together. But this does not mean that in order to have work and play the time should be taken from study.

No strange distracting factor is to be added to the educational life of children, for the established school has refused to change and past generation had industrial training in the home and shop at the same time that they pursued the scholastic work of the public school and college. Work, study and play have always been considered good things for children and it has always been considered desirable for children were helping their fathers, mothers, older brothers and sisters. The idea that children should study exclusively for eight years and then work exclusively for the rest of their life time is really a new idea in civilization. The criticism of the modern public school is directed almost entirely at the helplessness of children who are attempting to enter industrial and commercial life from this exclusive study period of eight, twelve, or sixteen years in the schools, and the fact that the school is not able to get much more than half of its children beyond the sixth grade of the common school.

It Is Not Enough to Provide Vocational School "Hospitals" for the Mental and Industrial Cripples We Are Steadily Turning Out.

The unnatural life that the average child spends in an exclusive study school and the city street fails to develop reliability, industry,

good health and intelligence. The school in over crowded, poorly ventilated class rooms and with its repression of physical activities makes many children anemic and tubercular, and then establishes open-air classes, to cure the children that it has made sick. In the same way the school now plans to turn the children, who have been in school for eight to twelve years and have failed to secure a preparation for life's work, into a vocational school hospital to repair the moral, mental and industrial cripples made by the school before sending them into industries. No amount of money spent on these special school hospitals will ever atone for the wasted life of a child strapped to school seats and loafing in the city streets for eight or twelve years. We do not need special types of schools so much as we need a reorganization of the schools that we have so that they will train our children for complete living.

We hear much talk concerning misfits, children not being able to get on in the traditional school, children leaving the school without any training for life's work, etc. We school administrators insist, however, that under no conditions must the traditional school be changed. There is something wonderfully sacred apparently about this traditional institution. All admit that the school today does not fit the children, but we insist that it is not the fault of the school. Just because home conditions have changed, just because industrial and commercial conditions have changed, just because the school has to deal with a new type of boy and girl is no reason why the school should change too. Because the home, industry, commerce, social conditions, and boys and girls have been so foolish as to change is no reason why the schools should be equally foolish, especially when it may be inconvenient for us managers of schools to make the desired changes. The schools exist principally to be managed, in the opinion of the managers. Even a sense of personal ownership often develops in the management of public institutions. I am told that the Commandant of a certain U. S. Navy Yard died leaving a will in which he bequeathed the Navy Yard to his son.

A School System for the Child, Not for the Administration.

It is almost impossible for the managers of any institution to subject their personalities and not consider their own convenience in the development of their institutions. When they have made their institutions what they want them to be, of course they do not wish to be disturbed by changes.

Thousands of children may waste their lives in schools that do not meet their needs, but we school administrators say that nothing can be done about it. We must compel all children to go to these mal-adjusted schools for eight years and waste their lives in order that we may find out whether they fit the school or not. Then we will provide special school hospitals for the children who have succumbed and endeavor by special treatment to restore their moral, intellectual, industrial and physical good health by giving them a school adapted to their

needs, provided somebody will furnish us fifty millions of money to provide the special school hospitals and the doctors.

I am in favor of an elementary school system that really trains all of its children and keeps the children in school until sixteen years of age. The greater part of the high school course should be completed in such elementary schools. I am in favor of a secondary school system for the continuation and extension of the work begun in the elementary schools and for its specialization in vocational schools, professional schools, etc. But I am not in favor of any kind of a school designed to repair the children crippled in their educational development because of an elementary school system that is out of joint with the times. The only possible remedy for such a situation is to make the ordinary elementary school system do the job for the doing of which we are maintaining the institution. This can be done by adding facilities and time for work and play.

The public now understands quite clearly that the successful rearing of children is as much a social and economic problem as it is a pedagogical problem. No longer is the public going to permit the pedagogue to dictate school conditions regardless of social and economic needs.

In the reorganization of the Bronx schools we plan to take over as far as necessary not only the actual industrial *training* formerly given by the home and small shop, but also the *time* the child formerly spent at industrial training in the home and small shop and for children of all ages. Only by such a complete reorganization can the school give industrial training and play and at the same time maintain a high standard of academic work so that the industrial training may be equally advantageous to the boy or girl who goes to high school from the elementary school or to college from the high school, and to the boy or girl who goes into industry or commerce from the elementary school or high school.

COMPARISON OF COSTS.

It is futile to plan a school system without counting the cost. It is tremendously expensive to make children sick and then provide hospitals and doctors to cure them. I do not object to curing the sick, but it is economy to keep people well physically, morally, socially, economically, and every other way.

By spending \$1,000,000.00 for two new public schools in the Bronx District under consideration you will have satisfactory school seats for only 671 classes and about 30,000 children. But there are now 35,580 children in the schools and by the time the buildings proposed are completed there will probably be 6,000 more. Also the schools thus secured would not be able to do the industrial and physical training formerly done by the home and the shop, unless special pre-vocational schools sufficient to accommodate at least 5,000 children were provided. If you will take the initial cost of a typical pre-vocational school plant and its annual maintenance and daily attendance as a unit, you can

soon estimate the tremendous cost of providing such school hospitals. Besides the special pre-vocational school must work at a great disadvantage, for it has the task of correcting the bad results of a maladjusted elementary school before it can undertake the real work of educating its children.

The proposed expenditures for the reorganization are approximately \$525,000.00 for building and equipment and \$225,000.00 for land, a total of \$750,000.00 in place of \$1,000,000.00. Accommodations will be provided for 1,022 classes and 46,000 children, in place of 671 classrooms and 30,000 children. Besides all children will have 380 minutes in school daily in place of 300, and special equipment and teachers for shop work, science, drawing, play and physical training will have been provided.

Thus every child can secure as much physical training, scholastic training, and industrial training as he individually needs, because all children are together in one department and this training will be distributed from the kindergarten through the entire elementary school course. The development of character, habits of industry, reliability, good health and the growth of intelligence require time and should be a continuous process throughout the entire life of the child. The child needs to live its entire life in the best possible environment and under the wisest direction of its activities in order to develop latent powers and become the best man or woman that it is possible to be.

The industrial training will be much more varied and more thorough than is possible in the short courses of a separate pre-vocational or trade school. And on the other hand, there is no need of sacrificing scholastic training for industrial and science training, because the time for industrial and science training is not taken from the five hours of the scholastic school, but from the time formerly used by the home and small shop for this very purpose, which time is now worse than wasted in the city street.

WILLIAM WIRT.

Supplementary Report Bronx Schools

At the request of Commissioner John Martin, Chairman of the Committee on Vocational Schools, I have prepared a supplementary report showing the possibilities of present Bronx schools under construction with a minimum expenditure for reorganization.

The following table shows the number of shops, studios, and laboratories provided for each school without increasing the number of teachers and without building annexes. The operation and maintenance work of the schools should support the equivalent of at least ten additional shops:

School	Class Rooms	Classes	Classes Accommodated	Music	Science	Drawing	Manual Training	Cooking	Sewing	Millinery	Tailoring	Shoemaking	Pottery	Printing	Carpentry	Cabinet Work	Painting	Sheet Metal	Electrical	Plumbing	Steam & Gas Fitting	Machine Shop
28	53	71	84	1	4	2	1	1	1	1				1							1	1
2	36	59	72	1	4	2	1	1	1						1	1				1		
42	40	75	64	1	3	2	1	1	1								1					
6	31	40	43	1	2	2	1	1	1								1					
50	44	69	72	1	4	2	1	1	1	1								1				
44	40	69	66	1	3	2	1	1	1					1								
5	19	27	32	1	1	1	1	1	1			1	1									
53	44	59	72	1	4	2	1	1	1		1								1			
40	57	96	80	1	4	2	1	1	1	1				1				1	1			1
32	29	60	48	1	2	2	1	1	1								1					
4	46	82	64	1	3	2	1	1	1						1	1						
45	41	72	64	1	3	2	1	1	1	1			1	1	1							
54	44		72	1	4	2	1	1	1									1				1
55	44		72	1	4	2	1	1	1							1			1			
Annex	15		24	1	1	1	1	1														
Totals	583	779	934	15	46	28	15	15	13	4	1	1	2	4	3	3	3	3	3	2	2	2
No. Teachers		785	30		74			43						33								

The above is a minimum reorganization of the schools listed. Principals have not been consulted and no exact study has been made of adaptation of particular shops to the several schools. But a rearrangement of the shops will not change the total cost materially.

The cost of the proposed limited reorganization will be approximately as follows:

15 Music Rooms at.....	\$ 350.00	\$ 5,250.00
46 Science Rooms at.....	750.00	34,500.00
28 Drawing Rooms at.....	300.00	8,400.00
15 Manual Training Rooms—Many are now provided.		
15 Cooking Rooms—Many are now provided.		
13 Sewing Rooms at.....	615.00	7,995.00
4 Millinery Rooms at.....	300.00	1,200.00
1 Tailoring Room at.....	615.00	615.00
1 Shoemaking Room at.....	300.00	300.00

2 Pottery Rooms at.....	300.00	600.00
4 Printing Rooms at.....	1,600.00	6,400.00
3 Carpentry Rooms at.....	1,000.00	3,000.00
3 Cabinet Work Rooms at.....	1,200.00	3,600.00
3 Painting Rooms at.....	300.00	900.00
3 Sheet Metal Work Rooms at.....	750.00	2,250.00
3 Electrical Work Rooms at.....	750.00	2,250.00
2 Plumbing Work Rooms at.....	750.00	1,500.00
2 Steam & Gas Fitting Rooms at.....	750.00	1,500.00
2 Machine Shop Rooms at.....	3,500.00	7,000.00
Total		<u>\$87,260.00</u>

Auditoriums, equipment completed.

Approximately 7,000 ordinary school seats and desks will be released for other schools.

NOT A QUESTION OF PROVIDING FOR PRESENT CONGESTION ONLY.

The district is increasing so rapidly in population that the construction of the annexes should be gotten under way at once. The shop opportunities and other accessory facilities will be enlarged so much by the construction of the annexes, that the successful promotion of the entire plan will be assured.

Also the purchase of additional land for playground purposes must not be forgotten.

Only 790 classes can be accommodated until the new buildings under construction, Public Schools 54 and 55, are ready for occupancy September 1st, 1916. There were 779 classes registered December 31, 1914. One hundred additional class rooms will be needed for the school year of 1915 and 1916. The 144 class rooms available September 1st, 1916, will provide the necessary facilities for 1916 and 1917, and probably 1917 and 1918.

The building of the annexes is absolutely necessary to provide the accessories for insuring the success of the reorganization. Besides the additional class room space is absolutely necessary to accommodate the children. It provides room for approximately 100 additional classes. At the present rate of growth the annexes proposed and the two buildings under construction will not take care of the increase in school population beyond June, 1918. Additional provision must be made for 1918 and 1919, provided the present rate of increase in population continues during that year. I do not know of any way of estimating growth in population that far in the future. I do know, however, that the assured growth in population in the immediate future makes the building of the annexes absolutely necessary.

The expenditure of \$750,000.00 for fifteen schools to provide for the necessary playgrounds and other facilities may seem like a large amount to spend for a reorganization. The report shows clearly, however, that whereas there are now only 583 satisfactory class rooms for 779 classes, that the reorganization will provide more than satisfactory accommodations for 1,022 classes. These annexes would not be necessary to provide for present register even though 12,000 children are now on part time, but the annexes are necessary to provide for the assured tremendous growth in population.

NOT A QUESTION OF CROWDING CHILDREN INTO SCHOOLS, BUT A PLAN FOR CREATING A CHILD WORLD WITHIN THE CITY.

It has been stated that to spend money for accessory facilities as I have proposed, was not contemplated when the matter was under consideration during the summer of 1914. I wish to call attention to the following from my report of July 30, 1914, page 6:

"It must be understood, however, that new buildings should be erected in districts where children have too far to go to present schools; where present buildings are not satisfactorily located; and where present buildings are unfit for use. Also many buildings should have larger playgrounds, gymnasiums, and, in my opinion, all buildings should have swimming pools. A few buildings should have auditoriums added. Most of the old buildings without auditoriums should be vacated or used for vocational schools. A large share of the annual corporate stock issue should be used for these improvements in place of using the entire fund for additional schools."

I am now pointing out in detail how a large share of the proposed corporate stock issue for new schools should be used for the improvement of present plants for a work-study-and-play school organization.

I have submitted definite plans for the reorganization of schools in some of the most congested sections providing accommodations for over 4,000 classes including kindergartens. I am proposing to expend \$1,500,000.00 for increasing the capacity of these schools from 2,400 satisfactory class rooms to satisfactory accommodations for 3,800 classes, an increase of 1,400. There are 3,200 classes now registered in these schools, which is 800 classes more than satisfactory class rooms, representing approximately 36,000 children without satisfactory school accommodations. Three of the districts are growing so rapidly in population that there is an immediate assured necessity for the 600 classes, representing 27,000 children, provided for by the work-study-and-play school reorganization in addition to the present register.

By the work-study-and-play school reorganization a six hour school day is provided for all children in place of five, without increasing the time of teachers. In addition to satisfactory accommodations for 1,400 classes the \$1,500,000.00 will secure the following special accessory facilities:

120 Music teachers and studios.

120 Drawing teachers and studios.

240 Science teachers and laboratories.

60 Manual Training teachers and laboratories, completed.

360 Prevocational shop teachers and shops for boys and girls.

200 Special teachers of physical training and play.

15 Swimming Teachers and pools.

60 Auditoriums, equipment completed.

\$500,000.00 expended for additional outdoor playgrounds.

300 Unfit class rooms are abandoned.

A reduction of \$60,000.00 in annual expenditures is made possible. Also a large part of the \$1,500,000 can be secured from the sale of abandoned school properties.

The Board of Education is now asking for approximately \$3,000,000.00 for the relief of these particular schools which sum provides for only 240 additional satisfactory regular class rooms. This will give school accommodations to only 11,000 children of the 36,000 now without accommodations in these schools and makes no provision for assured future growth of 27,000 in registration. Besides all unsatisfactory school plants and class rooms must be continued in use, and the annual operating cost will be increased at least \$40,000, not counting interest on corporate stock.

Also this proposed double expenditure will not provide a six hour school day in place of five, for all children, nor will it provide play space, swimming pools, gymnasiums, auditoriums, shops, studios, libraries and laboratories. The proposed environment for keeping children wholesomely busy at work, study and play is unattainable by the exclusive study school plan.

It is not a question of devising a complicated school program for the purpose of doubling up the number of children in a school building. I desire to substitute a work-study-and-play school for the traditional exclusive study school, and thus create a child world within the city where children may be kept busy at wholesome work, study and play for all of the time that they should be so occupied. A program is necessary for distributing the children in the work-study-and-play facilities, but the program exists only to make possible the most advantageous use of the accessory facilities in the real community thus created for children.

PART TIME PROGRAM APPLIED TO WORK-STUDY-AND-PLAY SCHOOL.

I am often asked whether a part time program can be applied to a work-study-and-play school. It has been suggested that when the fifteen schools included in the Bronx reorganization have the registration provided for in the work-study-and-play school reorganization, that they will have reached the saturation point and no additional children can be accommodated under any condition.

On the contrary a forty-four regular class school which has been reorganized for a sixty-four class school at work, study and play can be made to accommodate 90 classes of children grouped as three schools X, Y and Z of thirty classes each. Under such a program the school is in session eight hours from 8:00 to 4:00, or 8:30 to 4:30.

Sixty classes in the intermediate and grammar grades have a 320 minute daily program in the school consisting of 160 minutes regular class room work for arithmetic, language, reading, writing and spelling; eighty minutes for laboratory and shop work including history and geography; forty minutes play and physical training; and forty minutes auditorium work. In addition to the 320 minutes regular as-

signment there^c is provided 80 minutes daily for religious instruction, library work, gardening, excursions, music and club work, and supplementary play. But there are twenty classes of intermediate and grammar grade children in these accessory facilities at one time. Those who cannot be accommodated in the accessory facilities will remain in their respective homes during this extra eighty minute period.

The thirty classes of primary children have 160 minutes regular class room work, forty minutes auditorium and eighty minutes play and physical training. Only 280 minutes are required of these classes in regular assignment, but each class has 120 minutes daily for accessory facilities as far as these facilities can accommodate them.

Following is a schedule of classes for an X, Y and Z School:

WORK-STUDY-AND-PLAY SCHOOL PART TIME PROGRAM No. 1

Hours	30 classes in 30 class rooms	10 classes in Aud.	10 classes at Play	10 classes at Labs.	30 classes in music, clubs, gardens, ex- cursions, li- brary church and home.
8:00- 8:40	X Arith.	Y div. 3*	Y div. 2	Y div. 1	Z
8:40- 9:20	X Lang.	Y div. 2	Y div. 3	Y div. 1	Z
9:20-10:00	Y Arith.	Z div. 3	Z div. 2	Z div. 1	X
10:00-10:40	Y Lang.	Z div. 2	Z div. 3	Z div. 1	X
10:40-11:20	Z Arith.	Y div. 3	Y div. 1	Y div. 2	X
11:20-12:00	Z Lang.	Y div. 1	Y div. 3	Y div. 2	X Luncheon
12:00-12:40	X Read.	Z div. 1	Z div. 3	Z div. 2	X Luncheon
12:40- 1:20	X Read.	Z div. 3*	Z div. 1	Z div. 2	Y Luncheon
1:20- 2:00	Y Read.	X div. 3	X div. 2	X div. 1	Z Luncheon
2:00- 2:40	Y Read.	X div. 2	X div. 3	X div. 1	Z
2:40- 3:20	Z Read.	X div. 1	X div. 3	X div. 2	Y
3:20- 4:00	Z Read.	X div. 3*	X div. 1	X div. 2	Y
No. Teachers	30	4	4	14	2 music, 2 club leaders, 1 excursion, 1 gardener, and 1 li- brarian.

NOTE—The * means that work may be omitted.

The following forty-minute teaching units are required:

Class rooms	360
Auditorium	40
Play	48
Laboratories	168
Accessory Activities	56
Total	672

Each teacher is responsible for eight forty minute teaching units, so that 84 teachers are required for 90 classes of children. Including special teachers of manual training and cooking and also drawing, music and physical training supervisors, at least 95 teachers are regularly employed for ninety classes of children. The above program saves eleven teachers and thus uses only 88½ per cent of the regular ex-

penditures for teachers' salaries under your present school program. Since with the play yards in charge of special teachers, five minutes is sufficient for the assembling of children, each teacher has 330 minutes for class room work and assembling of pupils as at present.

The above part time program is of the type now in use in Public School 45, The Bronx. It provides eighty minute periods for special work for intermediate and grammar grades. Forty minute play and physical training periods are provided daily for all children in addition to the after school athletic center.

Following is a part time program of the type used in Public School 89, Brooklyn. It provides one hundred minute periods for the special work of the grammar grades, and only sixty minute periods for the special work of the intermediate grades. Grammar grades have only the after school athletic center for play and physical training. Intermediate grades have one fifty minute period daily for play and physical training. The primary grades have one fifty minute period and one sixty minute period daily for play.

WORK-STUDY-AND-PLAY SCHOOL PART TIME PROGRAM No. 2

School Hours	30 Classes in 30 Class Rooms	10 Classes in Auditorium	10 Classes in Gym. and Playground	10 Classes in 10 Special Rooms	30-Classes in Library, Church, Excursions, Clubs, 4 Shops	
					X	Z
8:00- 8:50	X	Y2	Y3	Y1		Z
8:50- 9:40	X	Y3	Y2	Y1		Z
9:40-10:30	Y	Z2	Z3	Z1		X
10:30-11:20	Y	Z3	Z2	Z1		X
11:20-12:20	Z	Y1	Y3	Y2	X Luncheon	
12:20- 1:20	X	Z1	Z3	Z2	Y Luncheon	
1:20- 2:20	Y	X1	X3	X2	Z Luncheon	
2:20- 3:10	Z	X3	X2	X1		Y
3:10- 4:00	Z	X2	X3	X1		Y
4:00- 5:00			XYZ1			
Total Teachers	—51—		6	18		10

Only 85 teachers are employed for the 90 classes.

A forty-four room school might be used to accommodate three schools of twenty-seven classes each, a total of eighty-one classes with the following division of facilities:

In twenty-seven class rooms each pupil is given daily 160 minutes regular class work in arithmetic, reading, writing, spelling and language. In nine class rooms each pupil in the grammar grades is given one hundred minutes and in the intermediate grades sixty minutes daily for history, geography, music and drawing. Eight class rooms for shops and science laboratories accommodate 700 students for one hundred minutes daily.

With public library facilities, opportunity for excursions, club work and religious instruction, the majority of the children could be given a 420 minute school day consisting of the following activities:

<i>Subjects</i>	<i>Number of Minutes Provided</i>		
	<i>Grammar Grades</i>	<i>Inter-mediate Grades</i>	<i>Primary Grades</i>
Arithmetic, Reading, Spelling, Writing and Language	160	160	160
History, Geography, Music and Drawing ...	100	60	
Auditorium	60	50	50
Shop Work (700 students).....	100		
Library, Excursions, Church		100	100
Play and Physical Training.....		50	110
After School Athletic Center.....	60		
Total Time	480	420	420

The program for the distribution of time and activities is so elastic that it may be adapted to meet the needs of any school and almost any child.

With the X, Y and Z school the children can be given a longer school day and greater facilities than your regular five hour full time school provides. Also it may be operated with only 88½ per cent of the regular expenditures for teachers' salaries. The fifteen schools included in the Bronx reorganization have accommodations for 30,000 children with the traditional five hour full time school and 46,000 with the work-study-and-play school organization with an expenditure of \$750,000.00 for accessory facilities. Should these schools become crowded as work-study-and-play schools the children can be given an X, Y and Z school program which provides much greater facilities than the regular five hour full time school and the capacity can be increased 40 per cent, or from 46,000 to 64,000.

But I recommend the X, Y, Z School only as a temporary expedient. We can afford better schools for our children than such a plan provides, even though it is better than the traditional full time five hour school. It is not a question of providing an equivalent for the five hour full time school, but a question of providing an environment where children may be kept busy at wholesome work, study and play for all of the time that they should be so occupied.

WILLIAM WIRT.

APPENDIX

Table from the Official Statement of the Board of Estimate and Apportionment of New York City, May 9, 1916, showing the details of the proposed reorganization of the city schools on the duplicate-school plan.

Summary Statement Showing Existing Conditions, Increase in School Capacity Provided by School Plans. Also Amount of Part Time and Double Sessions Eliminated and Additional

District No.	Public School Nos.	Existing No. of Rooms.		No. of Classes 3/31/16, Exclusive of Kindergartens.	New Satisfactory Class Capacity, Exclusive of Kindergartens Under Duplicate School Plan.	Increase of New Class Capacity Over No. of Classes 3/31/16.	Increase of New Class Capacity Over Existing Regular Classrooms.
		Exclusive of Kindergartens Which Should Be Continued in Use.	Which Should Be Abandoned.				
I. Past and Proposed Appropriations for							
17 and 16...	Manhattan— 72, 83, 101, 121, 168, 171, 109.....	375	24	440	492	52	117
25 and 26...	The Bronx— 2, 4, 5, 6, 28, 32, 40, 42, 44, 45, 50, 53.....	490	49	825	854	29	364
25 and 26...	New 54 and 55.....	92	.....	.....	144	144	52
23.....	30 and 43.....	109	.....	135	156	21	47
31 and 34...	Brooklyn— 16, 19, 33, 122, 50, 143 (drop High School), 22, 23, 31, 51 (use as High School Annex), 110, 132, abandon 37, 166, 20, 59, 19 Annex.....	513	73	632	680	48	167
39 and 40...	66, 109, 125, 150, 156, 165, 175, 64, 72, 149, 173, 174.....	603	7	754	914	160	311
38.....	89.....	26	.....	41	48	7	22
28.....	6 and 142 to relieve 78, 32, 46, 27 and 30.....	206	8	236	296	60	90
42.....	Queens— 6.....	35	.....	44	54	10	19
	Total.....	2,449	161	3,107	3,638	531	1,189
	Cost per capita.....						
II. Provision of New Buildings							
25.....	The Bronx— New, 179th St. and Third Ave.....	.....	.....	.....	72	72	72
39 and 40...	Brooklyn— New, Dumont, Sheffield and Pennsylvania Aves.....	.....	.....	.....	72	72	72
38.....	New, Snyder Ave. and E. 33rd St.....	.....	.....	.....	72	72	72
	Total.....	.....	.....	.....	216	216	216
	Cost per capita.....						
III. Provision for Replacement							
31.....	Brooklyn— New 20, to replace 17, 17a and 38.....	.....	51	64	72	8	72
28.....	New 29, to replace 29, 13 and 58.....	.....	63	73	72	—1	72
	Total.....	.....	114	137	144	7	144
	Cost per capita.....						
	Grand Total, Entire Duplicate School Proposition.	2,449	275	3,244	3,998	754	1,549
	Cost per capita.....						

aP. S. 45, estimated. bCost is estimated on the basis of \$10,000 per classroom, except started, in which \$12,500 is used as the cost per classroom. c16 Annex. dDecrease. eP. S.

Reorganization, Together with Comparative Costs Thereof Under Duplicate and Traditional Capacity Available for Reduction of Over-Size Classes, for Growth and for High School Purposes

Cost of Improvements Under Duplicate School Plan.	Estimated Cost Under Traditional School Plan of Reserved Seat for Each Pupil.	No of Pupils on Part Time.		No. of Pupils on Double Session.		Exclusive of Kindergarten.	Average Size of Class, Exclusive of Kindergarten.	Additional Class Capacity Required to Reduce Average Size of Class to 41.	Class Capacity Provided for Growth and High School Purposes.
		3/31/16, Who Will Be Given 5 or 6-Hour Day.	12/31/15, in Schools Reorganized in March.	3/31/16, Who Will Be Given Longer School Day.	12/31/15, in Schools Already Reorganized in March.				

Elimination of Part-Time and Double Sessions.

\$395,766 00	\$1,117,000 00	.....	....	2,693	....	20,195	45.9	62	...
1,090,356 00	3,640,000 00	10,422	6,687	3,091	5,377	36,024	43.7	54	225
1,088,418 71	61,738,418 71	.....	.....	.....	.....	.....	.....	.....	144
73,530 00	470,000 00	.....	.....	2,275	.....	5,681	42.1	4	17
{ 6112,300 00	{ 6112,300 00	1,927	....	4,288	....	27,062	42.8	28	20
213,190 00	1,510,000 00								
389,015 00	3,110,000 00								
50,000 00	220,000 00								
129,160 00	900,000 00	474	....	1,438	....	10,510	44.5	20	40
53,595 00	190,000 00	503	....	273	....	1,856	42.2	+1	9
\$3,595,330 71	\$13,007,718 71	19,795	6,687	21,237	6,712	137,659	44.3	250	281
		26,482		27,949					
\$73 39	\$265 54	.....	.....	.....	.....	.....	.....	.....	.....

for Future Growth.

\$668,474 00	\$900,000 00	.....	.....	.....	.....	.....	.....	.....	72
627,926 50	900,000 00	.....	.....	.....	.....	.....	.....	.....	72
615,474 00	900,000 00	.....	.....	.....	.....	.....	.....	.....	72
\$1,911,874 50	\$2,700,000 00	.....	.....	.....	.....	.....	.....	.....	216
\$215 88	\$304 88	.....	.....	.....	.....	.....	.....	.....	.....

of Old Buildings.

\$783,474 00	\$900,000 00	308	....	962	....	2,538	39.7	2	10
703,474 00	900,000 00	158	....	636	....	3,253	45.1	+6	7
\$1,486,948 00	\$1,800,000 00	466	....	1,598	....	5,791	.....	4	3
\$251 85	\$304 88	.....	.....	.....	.....	.....	.....	.....	.....

\$6,994,153 21	\$17,507,718 71	20,261	6,687	22,835	6,712	143,450	44.2	254	500
		26,948		29,547					
\$118 22	\$295 93	.....	.....	.....	.....	.....	.....	.....	.....

for additional capacity in New 54 and 55, under construction before reorganization was 89, estimated. fCost per classroom is estimated at \$12,500.

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