

# PUBLIC SCHOOLS AND THE WORKER IN NEW YORK

A SURVEY OF PUBLIC EDUCATIONAL  
OPPORTUNITIES FOR INDUSTRIAL  
WORKERS IN NEW YORK STATE



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135

## PREFACE

THE gradual remolding of the system of public education in the United States to bring about its better adaptation to modern needs and changing conditions is a process of great interest and importance, not only to the general public and the educator but also to the industrial and business organization of the country, in which the changes creating new demands have been perhaps more striking than in other aspects of modern life. The rapid growth of modern industry, and the growing importance of industrial and commercial occupations have exercised an increasing pressure upon the public educational system and have compelled extensions of certain types of educational service and changes in emphasis upon others. No single group in the community is primarily responsible for this change, for the process has in large measure been unconscious and gradual. Yet its results are deserving of careful consideration from time to time, especially on the part of employers, who are most directly affected by the product of our educational system.

Inasmuch as the American organization of public education has from the beginning been based mainly upon the independent jurisdictions of the various states, the process of adapting education to new economic conditions has been of particular significance in states in which industrial and commercial activity occupy so large a place as they do in New York State. In the latter state, consequently, the development of new educational facilities for young people planning to enter industrial and commercial occupations, and the adequacy of these facilities, have been matters of special interest to those concerned with the sound economic progress of the state.

In 1926, the legislature of New York State created by joint resolution an Industrial Survey Commission to investigate existing conditions under which the manufacturing and

mercantile business of the state was carried on. In its desire to be helpful to the Survey Commission, as well as to itself, by a full disclosure of the facts, Associated Industries of New York State, Inc. requested the National Industrial Conference Board to conduct a series of investigations for the purpose of assembling and presenting to the Commission pertinent material which would be of assistance in its work. The present report entitled "Public Schools and the Worker in N. Y.," A Survey of Public Educational Opportunities for Industrial Workers in New York State, is one of a series of six studies prepared by the Conference Board for the Survey Commission at the request of Associated Industries of New York State.

The purpose of this report is primarily to present a brief description of those public educational facilities provided by New York State which have some direct bearing upon the preparation of the young people of the state for industrial and commercial occupations. The report does not attempt to make a critical evaluation of these facilities, either from the point of view of educational science or from the point of view of the special interests of employers. Such an evaluation could be made only through a lengthy and intensive analysis of the experience both of employers and of young persons under the operation and administration of these educational facilities, and would also require special professional knowledge of educational technique which is outside the scope of the Conference Board's activities. It was felt, however, that a descriptive survey such as is presented in this report would be helpful to the employers of the state in providing them with a clear and concise picture of the public educational opportunities offered in the state, and that it might also arouse their interest in, and stimulate their closer cooperation with, the educational system.

In the preparation of its studies the National Industrial Conference Board avails itself of the experience and judgment of the business executives who compose its membership, and of recognized authorities in special fields, in addition to the scientific knowledge and equipment of its Research Staff. The publications of the Board thus finally represent the result of scientific investigation and broad

## PREFACE

vii

business experience, and the conclusions expressed therein are those of the Conference Board as a body.

This survey was prepared by the Research Staff of the National Industrial Conference Board under the supervision of its Staff Economic Council. The Board is indebted to Mr. Lewis A. Wilson and Mr. Oakley Furney of the State Education Department for certain data and for their critical review of the material in the report.

MAGNUS W. ALEXANDER,  
*President.*

New York City

# CONTENTS

	PAGE
INTRODUCTION . . . . .	1
CHAPTER	
I. GENERAL EDUCATIONAL OPPORTUNITIES IN NEW YORK	
STATE . . . . .	5
Powers and Duties of School Officials . . . . .	5
Educational Facilities of the State . . . . .	6
Compulsory Attendance . . . . .	10
Employment Certificates . . . . .	10
Employment of Young Persons . . . . .	11
Enrolment in Different Types of Schools . . . . .	13
II. VOCATIONAL TRAINING TENDENCIES IN PUBLIC EDUCATION . . . . .	
The Recruiting Ground for Industrial Labor . . . . .	18
Vocational Guidance . . . . .	19
Need for Industrial Training . . . . .	24
General Principles Involved . . . . .	27
New York State Laws . . . . .	30
III. EDUCATION FOR INDUSTRIAL SERVICE IN NEW YORK	
STATE . . . . .	32
Unit Trade Schools . . . . .	32
Technical Schools . . . . .	35
General Industrial Schools . . . . .	36
Part-Time or Continuation Schools . . . . .	38
Private Continuation Schools . . . . .	46
State Survey of Pupils Attending Part-Time Schools . . . . .	48
Cooperative Part-Time Schools . . . . .	50
Evening Vocational Schools . . . . .	51
IV. EDUCATION FOR INDUSTRIAL SERVICE IN NEW YORK	
STATE ( <i>Continued</i> ) . . . . .	53
Apprenticeship Training . . . . .	53
Junior High Schools . . . . .	56
Prevocational Schools . . . . .	59
Industrial Courses for Ungraded and Retarded Pupils . . . . .	60
County or State Vocational Schools . . . . .	63
Rehabilitation of the Physically Handicapped . . . . .	64
Training of Mental Defectives . . . . .	66
Qualifications of Teachers . . . . .	67
Foreman Training . . . . .	68

x PUBLIC SCHOOLS AND THE WORKER IN N. Y.

	PAGE
V. INDUSTRIAL TRAINING IN NEW YORK AND OTHER STATES	
COMPARED . . . . .	69
Provisions for School Attendance . . . . .	69
Legal Exemptions . . . . .	69
Continuation School Requirements . . . . .	70
Employment Certificate Requirements . . . . .	74
Types of Vocational Schools Maintained . . . . .	74
Population and Vocational School Enrolment . . . . .	74
Salary Expenditures . . . . .	75
Federal Aid to Industrial Training . . . . .	77
Summary . . . . .	78

## LIST OF TABLES

TABLE	PAGE
1. Proportion of Young Persons Ten to Thirteen Years of Age Gainfully Employed; Selected Industrial Areas, 1920 . . . . .	11
2. Proportion of Young Persons Fourteen to Sixteen Years of Age Gainfully Employed; Selected Industrial Areas, 1920 . . . . .	12
3. Occupational Distribution of Young Persons Fourteen to Sixteen Years of Age Gainfully Employed; Selected Industrial Areas, 1920 . . . . .	12
4. Enrolment in Public Schools of New York State, 1925-1926 . . . . .	14
5. School Enrolment and Number of Graduates in New York State, 1925-1926 . . . . .	14
6. Enrolment in Trade and Industrial Schools in New York State, 1920-1927 . . . . .	15
7. Public Evening School Enrolment in New York State for Year Ended July 31, 1926 . . . . .	16
8. Educational Progress in New York State, 1905-1926 . . . . .	17
9. Enrolment in Unit Trade Schools in New York State by School Years, 1918-1926 . . . . .	35
10. Statistical Information Relative to Part-Time Schools in New York State, 1926-1927 . . . . .	42
11. Employment Entered by Young Persons to Whom Certificates Were Issued, Buffalo, N. Y., 1926-1927 . . . . .	45
12. Grade Distribution of Pupils Thirteen Years of Age in Cities of New York State, September, 1925 . . . . .	62
13. Compulsory School Attendance Standards Affecting Employment of Minors in Selected Industrial States . . . . .	71
14. Population and Enrolment in Trade and Industrial Schools in Selected States, 1926-1927 . . . . .	75
15. Expenditures for Vocational Trade and Industrial Education in Selected States, 1926-1927 . . . . .	76
16. Expenditures for Part-Time General Continuation Education in Selected States, 1926-1927 . . . . .	77
17. Distribution of Federal Money for Trade and Industrial Schools, 1926-1927 . . . . .	78
18. Summary of Public Educational Opportunities for Trade or Industrial Training in New York State . . . . .	79



# PUBLIC SCHOOLS AND THE WORKER IN NEW YORK

## A SURVEY OF PUBLIC EDUCATIONAL OPPOR- TUNITIES FOR INDUSTRIAL WORKERS IN NEW YORK STATE

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### INTRODUCTION

**A**N outstanding contribution of the United States to the progress of civilization has been the development of an educational system which has brought education within the reach of all. Moreover, that system has required that every child avail himself of the opportunity provided, at least to a certain minimum extent, and in this way has greatly reduced the prevalence of illiteracy.

So well has the primary or general purpose of public education been accomplished that attention is now largely directed to special phases of the educational problem. Standards are constantly being changed and curricula broadened in scope and made more thorough in treatment. New methods and new aims in public education are continually being proposed and made effective by legislative enactments, or by action of school boards. A notable forward step was taken with the recognition of the fact that individual children differ as much in their mental make-up and propensities as in other ways and are not equally responsive to particular educational programs.

Formerly, the elementary and secondary schools of most states were organized and maintained primarily to prepare students for a classical course in college, which in turn prepared for teaching, law, medicine or the ministry. It became evident, however, that many students had no intention of entering college to train themselves for those professions and that many others had neither the aptitude nor the ability to

## 2 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

qualify for, or to obtain particular benefits from, a college course. Consequently, the trend has been toward fitting the instruction to the needs of classified groups of children rather than compelling all children to follow a course which was poorly adapted to the needs of many of them.

The character and results of public education are of importance not only to the individual children directly concerned, but also to employers and to the general public. To a great extent, a child's future depends upon the training which he receives in his early years. His outlook on life and his character are molded during the period of school attendance. These years can either be made highly valuable to the child by cultivating whatever mental ability he possesses and by preparing him for further study or for some useful occupation in the business world, or they may be largely wasted through fruitlessly striving to enforce upon him an educational standard which he is incapable of meeting.

Employers have a very real interest in education since most of their working forces are, in respect to knowledge and training, products of the public education system. The larger number of the pupils in the public schools must of necessity become wage earners. Their employers are in a peculiarly favorable position to observe the failure or success, the weaknesses and the strong points, of the educational system. Industrialists as a group have been charged with hostility to the democratization and the expanding program of public education. Statements tinged with criticism of certain features of educational effort have been interpreted as attacks on the entire system. But the mere fact that industry observes certain shortcomings in present-day educational methods and calls for their correction, for the advantage both of industry and of the pupils, is hardly ground for implying that it is hostile to all education. When so much disagreement exists within the ranks of educators themselves, expressions of opinion from the outside should serve a valuable purpose in focusing attention upon actual results.

The interest of the public in education is two-fold. It is to the interest of the public that an intelligent, moral citizenship be built up, composed of those who have been trained to become self-supporting individuals or heads of families.

The public is also interested in the disposition of the huge sums which are annually levied in taxes for the support of education. From the comparatively modest total of \$215 millions which was expended for the maintenance of the elementary and secondary schools in the United States in 1900, the amount for this purpose had increased to \$2,026 millions in 1926,<sup>1</sup> an advance of 842%.

This volume is intended to assist in more careful study of the educational situation in New York State, in so far as it affects, and is affected by, industry. Properly, there should be close and harmonious cooperation between the two, since their inter-relations are many and neither can reach its highest development without the proper functioning of the other. In the words of an English committee on education: "Education fails in part of its aim if it does not prepare children for a life of active labor and social cooperation; industry fails no less if it does not use and strengthen the qualities of mind and character which have been cultivated by education."<sup>2</sup>

The whole purpose of education is to help the child to make the best possible use of his talents, whatever they may be. A large proportion of those who have received their early training in the public schools enter the business world, and great numbers are absorbed by industry. Since industry as a whole is rapidly progressing beyond the hand-labor stage to a period of mechanization, which has probably not reached its full development, it must look more and more to the schools for the preliminary instruction of its labor force, and it is therefore interested in the character of this instruction.

A study of the educational problem, in so far as its application to industry is concerned, must be treated in two parts: first, the opportunities and facilities available to the child or youth for instruction along industrial lines, and, second, the question of how well the program meets the actual needs of the student and of industry. This last question can not be finally answered without an exhaustive and intensive

<sup>1</sup> U. S. Department of the Interior, Bureau of Education, "Statistics of State School Systems, 1925-1926," Bulletin No. 39, Washington, D. C., 1927, p. 8.

<sup>2</sup> "The Education of the Adolescent," Report of the Consultative Committee to the Board of Education, London, 1926.

#### 4 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

investigation covering many industries and large numbers of wage earners, and is beyond the scope of the present survey. This particular study has been made to determine what educational resources exist in New York State, what progress has been made in recent years in developing a curriculum of study broad enough to be generally educational and at the same time offering sufficient opportunities for specialization in practical arts to be useful to the industrially-inclined student and genuinely preparatory for industrial employment.

Stress has been laid upon prevocational instruction and vocational guidance because of the obvious need of the average child for assistance in these matters. Certain aspects of the education problem have been given statistical treatment where such treatment corroborates conclusions or demonstrates conditions and trends. Legislative provisions affecting public instruction in New York State have been compared with corresponding provisions in other industrial states in order to indicate New York's relative standing in educational requirements and facilities. From many authoritative sources, data have been selected and correlated to show what opportunities exist in the New York State system of public schools for meeting the industrial needs of both the student and the employer.

## CHAPTER I

### GENERAL EDUCATIONAL OPPORTUNITIES IN NEW YORK STATE

**N**EW YORK is one of the states foremost in making provision for public education. The constitution of the state specifies that "the Legislature shall provide for the maintenance and support of a system of free common schools, wherein all the children of this state may be educated."<sup>1</sup>

In keeping with this requirement, the Legislature has from time to time made the necessary appropriations and has enacted legislation extending the state system of public schools and enlarging the scope of its educational activities. The various school districts in the state, especially those in the cities, have experienced no little difficulty in providing school facilities adequate to accommodate the increasing school population. The state's school enrolment has been growing at a rapid rate because of compulsory school laws, population increase, and the popularization of school through curriculum enrichment. Nevertheless, a school of one kind or another is available for every child and the quality of educational service is continually being improved.

New York's system of public education is headed by the Board of Regents, which functions through a corporation under the name of the University of the State of New York. The Regents may exercise legislative functions concerning the educational system and policies of the state, and may adopt rules for carrying laws and policies into effect.<sup>2</sup>

#### POWERS AND DUTIES OF SCHOOL OFFICIALS

The Commissioner of Education, appointed by the Regents, is the chief officer of the state system of education and

<sup>1</sup> Constitution of the State of New York, Article 9, Section 1.

<sup>2</sup> University of the State of New York, "Education Law as Amended to July 1, 1928," Bulletin No. 910, Albany, N. Y., 1928, Article 3, Section 46.

of the Board of Regents.<sup>1</sup> He enforces educational laws and policies, has general supervision over all public schools, and exercises such further powers and duties as are specified by the Regents. Among the discretionary powers of the Commissioner, or of the Board of Education or Trustees of any city or school district, is that of providing "for the establishment of courses of instruction or study, and schools in connection with factories, places of employment, or in such other places as he or they may deem advisable, for the purpose of giving instruction to foreign-born and native adults and to minors over the age of sixteen years. Such course of instruction or study shall include instruction in English, history, civics and other subjects tending to promote good citizenship and to increase vocational efficiency."<sup>2</sup>

Each city, village or school district has its local Board of Education or its School Trustees charged with the general control, management and responsibility of the public schools. It is the duty of these bodies to see that an opportunity to obtain a free education is afforded the children of the community. To this end they are charged with the duty of providing adequate schools, teachers, text-books and equipment. In cities, the Boards of Education are directed to furnish medical inspectors, nurses, libraries, reading rooms, playgrounds, recreation and social centers, and to provide for physically handicapped children.<sup>3</sup>

#### EDUCATIONAL FACILITIES OF THE STATE

It is the duty of local boards of education "to establish and maintain such free elementary schools, high schools, training schools, vocational and industrial schools, kindergartens, technical schools, night schools, part-time or continuation schools, vacation schools, schools for adults, open-air schools, schools for the mentally and physically defective children, or such other schools or classes as such board shall deem necessary to meet the needs and demands of the city."<sup>4</sup>

In offering educational opportunities to its citizens, the state makes broader provision for elementary schools than

<sup>1</sup> *Ibid.*, Section 94.

<sup>2</sup> *Ibid.*, Subsection 11d.

<sup>3</sup> *Ibid.*, Article 33A, Section 868.

<sup>4</sup> *Idem.*

for any other type, because it is in such schools that education for most children begins. Practically all children who ever go to any school spend some time in the elementary grades, and their chance to qualify for a special school or course usually does not appear until after completion of the sixth, or possibly the eighth, grade.

The educational structure of the state consists of about 9,900 school districts, but this number is being gradually reduced by consolidations in the rural sections. Each district has an elementary public school. In addition, there are numerous private and parochial schools of comparable grade. Following attendance at the elementary school, students have open to them a number of avenues for continuing their free education. Among these are:

(1) *Junior High Schools.* These schools are a recent development in New York State and are designed to meet the changing demands for a greater variety and enrichment of school training for the early adolescent period. The junior high school is usually organized to include the seventh and eighth grades of the elementary school and the ninth grade of the regular high school. It has been thought that by means of the liberally elective courses in these schools more pupils can be retained in the school system beyond the eighth grade, and that many of them will continue through senior high school as a result of interest developed in special fields opened up to them in the exploratory work of junior high school. As yet, the junior high schools have not been established in sufficient number to accommodate all pupils entering the seventh grade, hence many of the elementary schools still maintain the seventh and eighth grades. At the close of the year 1927-1928, there were more than 125 junior high schools of the new type in New York State.<sup>1</sup>

(2) *High Schools.* The four-year high school is a well-established institution in the American educational system. Every city and most villages in New York State have one or more of these schools. In many rural sections of the state are what are called Union Free High Schools, maintained by consolidated rural districts. Many high schools

<sup>1</sup> G. M. Wiley and H. H. Van Cott, "The Junior High School in New York State," University of the State of New York, Albany, N. Y., 1928, p. 9.

offer trade, technical or commercial training, although until recently the main purpose of the typical high school has been to prepare the student for college entrance. The number of public day high schools in the state in 1926 was 819. There were also 237 private high schools or academies. In addition, there were seventeen evening high schools offering educational opportunities practically equivalent to those of a full day high school.

(3) *Unit Trade School or Class* is defined under the State Education Law as "a school or class established or maintained under public supervision and control for the purpose of fitting persons over fourteen years of age, who have completed at least the sixth grade, for useful employment in a particular trade or industrial pursuit."<sup>1</sup> The unit trade school is more often called a vocational school. In the law it is given the name "unit trade school" because it is designed to permit the pupil to concentrate on one trade, taking only such academic work as is closely related to the chosen occupation. Under this plan a course can be completed in two years, although some of the schools are offering four-year training and the tendency is toward abandonment of the two-year course. New York State has twenty-four unit trade or vocational schools.

According to a late report of the New York Education Department, the unit trade schools of the state have been "severely handicapped" by lack of adequate buildings. Progress is being made, however, in providing better facilities for these schools.<sup>2</sup> Among the best trade school facilities in the state are those provided in Buffalo, Yonkers, Rochester and New York City. The enrolment in these trade schools has increased from a total of 5,941 in 1918 to a total of 11,613 in 1926-1927.<sup>3</sup>

(4) *Unit Technical Schools*, otherwise known as technical high schools, offer three or four years of intensive vocational training for entrance into technical occupations or into a technical college. There were in 1927 four such high schools in the state. Enrolment in these unit technical courses in

<sup>1</sup> University of the State of New York, Bulletin No. 781, Albany, N. Y., 1923, p. 5.

<sup>2</sup> *Ibid.*, Department of Education, "Annual Report for the School Year ending July 31, 1926," Albany, N. Y., 1927, Vol. I, p. 138.

<sup>3</sup> *Ibid.*, "Annual Report, 1928," Vol. I, p. 147.



Buffalo, New York, Utica, and Yonkers was 3,500 in 1926-1927.<sup>1</sup>

(5) *General Industrial Schools* are authorized for small communities of less than 25,000 inhabitants, for the purpose of training young persons "who have completed the elementary school course or who have attained the age of fourteen years" for employment in a trade or industrial pursuit. Sixteen such schools are maintained in New York State.<sup>2</sup>

(6) *Part-Time or Continuation Schools*, for regularly and lawfully employed minors under the age of seventeen years who are not in regular attendance upon a private or parochial school, are required in cities having a population of 20,000 or more, and in all school districts having 200 or more such employed minors. Graduates of a four-year high school are exempted from part-time school attendance.<sup>3</sup>

(7) *Evening Schools*. The evening public schools of New York State offer training in Americanization, in homemaking and in commercial, industrial, elementary, general high school and special apprentice work. Over 225,000 persons sixteen years of age and over were enrolled in evening schools in 1926-1927.<sup>4</sup>

(8) *Prevocational Schools and Ungraded Classes*. In many elementary schools, attention is given in the seventh and eighth grades to prevocational training. This program enables pupils to learn the requirements for various occupations and to discover their own aptitudes for various lines of work. Similar training is also given to ungraded groups and retarded pupils who are unable to meet the requirements for promotion to a higher grade.

(9) *Higher Education*. In the field of higher education, the state of New York provides a college for teachers, ten normal schools, six schools of agriculture, a school of clay working and ceramics, an institute of applied agriculture, an agricultural experiment station, a college of home economics, and a college of forestry. In New York City there are two colleges conducted as units of the public school system. In

<sup>1</sup> *Ibid.*, p. 149.

<sup>2</sup> *Ibid.*, p. 150.

<sup>3</sup> "Education Law," *op. cit.*, Article 23, Sections 621 and 622.

<sup>4</sup> "Annual Report, 1928," *op. cit.*, Vol. I, p. 165.

## 10 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

addition to these public institutions, there are in the state nine private universities, five of which maintain graduate departments. Furthermore, there are thirteen independent colleges for men and eighteen for women.

### COMPULSORY ATTENDANCE

The idea that the state should enforce reasonable requirements for compulsory school attendance for certain age groups now prevails generally throughout the country. In New York, compulsory educational requirements have been enforced since 1895.

The amendment to the Education Law in regard to compulsory education, effective March 27, 1928, provides that "In each city and school district of the state the following minors shall attend upon full-time day instruction:

- (1) Each minor from seven to fourteen years of age;
- (2) Each minor from fourteen to sixteen years of age who is not employed."

It is further provided that in each city of the state, "the board of education shall have power to require minors from sixteen to seventeen years of age who are not employed to attend upon full-time day instruction."<sup>1</sup> Minors from fourteen to seventeen years of age who obtain either an employment certificate or a vacation work permit may be legally employed in industry.

### EMPLOYMENT CERTIFICATES

Employment certificates may be obtained by minors who are at least fourteen years of age and who have completed the work of the first eight years of a public, private, or parochial school; by minors of at least fifteen years of age who have completed the first six years of school; and by any minor of sixteen years or over.<sup>2</sup> This certificate of employment must be kept on file by the employer, and when the minor terminates his employment it must be returned to the cer-

<sup>1</sup> "Education Law," *op. cit.*, Article 23, Section 621.

<sup>2</sup> *Ibid.*, Section 632.

tifying officer.<sup>1</sup> A new employment certificate is required before the minor may be again employed.<sup>2</sup>

### EMPLOYMENT OF YOUNG PERSONS

The laws and practices as to employment of children have a bearing upon school attendance and consequently upon the total costs of education. In the United States as a whole, the proportion of children ten to thirteen years of age who were gainfully employed in 1920 was 4.4%. The leading industrial states of the northern and eastern sections of the country did not employ children of these ages to any great extent, as is shown in Table 1. The proportion of such employment in New York State, only four-tenths of one per cent, was the smallest found in any state. In all of the states included in the table, children are required to remain in school until at least fourteen years of age.

TABLE 1: PROPORTION OF YOUNG PERSONS TEN TO THIRTEEN YEARS OF AGE GAINFULLY EMPLOYED; SELECTED INDUSTRIAL AREAS, 1920

(Source: U. S. Bureau of the Census)

Area	Total	Gainfully Employed	
		Number	Per Cent of Total
United States .....	8,594,872	378,063	4.4
New York .....	733,957	2,822	0.4
Connecticut .....	99,209	648	0.7
Illinois .....	481,731	3,634	0.8
Massachusetts .....	271,812	1,431	0.5
Michigan .....	264,402	2,658	1.0
New Jersey .....	236,987	1,228	0.5
Ohio .....	411,726	3,621	0.9
Pennsylvania .....	692,458	4,846	0.7

For the group between fourteen to sixteen years of age, a different situation prevails because young persons after reaching the ages of fourteen or fifteen are generally permitted to leave school and to accept employment. Table 2 shows that in the entire United States, 24.9% of this group were gainfully employed in 1920, while for New York the

<sup>1</sup> *Ibid.*, Section 630.

<sup>2</sup> *Ibid.*, Section 631.

## 12 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

percentage was 27.6%. In Connecticut, Massachusetts and New Jersey, slightly more than 35% of the young persons fourteen to sixteen years of age were that year engaged in gainful occupations.

TABLE 2: PROPORTION OF YOUNG PERSONS FOURTEEN TO SIXTEEN YEARS OF AGE GAINFULLY EMPLOYED; SELECTED INDUSTRIAL AREAS, 1920

(Source: U. S. Bureau of the Census)

Area	Total	Gainfully Employed	
		Number	Per Cent of Total
United States.....	5,880,668	1,461,752	24.9
New York.....	492,878	135,875	27.6
Connecticut.....	66,146	23,549	35.6
Illinois.....	330,875	83,403	25.2
Massachusetts.....	184,201	64,944	35.3
Michigan.....	180,710	33,988	18.8
New Jersey.....	157,989	55,730	35.3
Ohio.....	279,450	47,267	16.9
Pennsylvania.....	466,014	131,276	28.2

Table 3 indicates the distribution by occupation of the gainfully employed persons between the ages of fourteen and sixteen years, inclusive. Manufacturing and clerical work attract most of these young people in the industrial states.

TABLE 3: OCCUPATIONAL DISTRIBUTION OF YOUNG PERSONS FOURTEEN TO SIXTEEN YEARS OF AGE GAINFULLY EMPLOYED; SELECTED INDUSTRIAL AREAS, 1920

(Source: U. S. Bureau of the Census)

Area	Total	Manufacturing		Trade		Clerical		Other	
		Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
New York.....	135,875	55,076	40.6	13,895	10.2	47,586	35.0	19,318	14.2
Connecticut.....	23,549	14,795	62.8	2,241	9.5	3,684	15.7	2,829	12.0
Illinois.....	83,403	29,289	35.1	9,335	11.2	23,387	28.0	21,392	25.7
Massachusetts.....	64,944	45,688	70.3	5,105	7.9	8,576	13.2	5,575	8.6
Michigan.....	33,988	12,654	37.2	4,035	11.9	4,690	13.8	12,609	37.1
New Jersey.....	55,730	33,336	59.8	4,308	7.7	11,651	20.9	6,435	11.6
Ohio.....	47,267	18,943	40.1	5,949	12.6	7,141	15.1	15,234	32.2
Pennsylvania.....	131,276	68,438	52.1	11,675	8.9	16,410	12.5	34,753	26.5

In the United States as a whole, however, only 30.6% found employment in manufacturing industries and 12.1% in clerical work. In Massachusetts, 70.3% of the employed persons in this age group go into manufacturing industries, while New York employs 40.6% in manufacturing and 35% in clerical pursuits. It should be noted, however, that where young persons of these ages are employed in manufacturing establishments they are generally engaged at what are termed "unproductive tasks," such as the work of messenger boys, tool-room boys, clerks, etc.

#### ENROLMENT IN DIFFERENT TYPES OF SCHOOLS

The educational program of New York State is designed to provide opportunities for school training for all young persons, both those below employable age and those who are legally permitted to enter employment. By means of regular day elementary and high schools, trade or vocational schools, part-time or continuation schools, and evening schools, efforts are being made to meet the educational needs of the state generally and of workers particularly. In order that minors under fourteen years of age, and under certain conditions minors between fourteen and seventeen years of age, may be guaranteed the advantages afforded by school training, a rather rigid system of compulsory attendance is enforced throughout the state.

Table 4 gives the enrolment data for public elementary and high schools of the state. These figures demonstrate the effectiveness of the school system in serving the large body of young people of school age. The number of persons of school age (5-18) residing in districts in New York State in 1926 was, according to the State Department of Education, 2,633,167. Approximately 1,450,000 of these were in the public schools. Parochial and private schools served thousands of those not registered in the public school.

Table 5 gives the enrolment in various types of schools,<sup>1</sup> the number of graduates from most of the schools and the

<sup>1</sup> Various tables giving detailed enrolment figures in New York State do not agree exactly as to totals, probably because of duplications in some of the grades. The discrepancies, however, are not large enough to make any material difference, as they do not affect conclusions.

## 14 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

### TABLE 4: ENROLMENT IN PUBLIC SCHOOLS OF NEW YORK STATE, 1925-1926

(Source: New York State Department of Education, "Annual Report, 1927")

Grade	Cities	Villages
Kindergarten .....	67,406	6,152
1 .....	143,335	12,844
2 .....	136,105	10,831
3 .....	131,358	10,832
4 .....	133,237	10,650
5 .....	133,907	9,868
6 .....	128,311	9,798
7 .....	115,998	8,767
8 .....	98,583	7,624
9 (First Year High School) .....	93,604	9,093
10 (Second Year High School) .....	61,299	6,130
11 (Third Year High School) .....	39,430	4,284
12 (Fourth Year High School) .....	27,907	3,206
13 (Postgraduate) .....	776	235
14 (Postgraduate) .....	74	30
Ungraded .....	25,514	102
<b>Total</b> .....	<b>1,336,844</b>	<b>110,446</b>

### TABLE 5: SCHOOL ENROLMENT AND NUMBER OF GRADUATES IN NEW YORK STATE, 1925-1926

(Source: New York State Department of Education)

Schools	Total Attendance	Graduates <sup>1</sup>	Entering Higher Institutions		
			Colleges	Normal Schools and Colleges	Professional and Technical Schools
Public schools (excluding vocational) ..	1,939,096	..	..	..	..
Elementary schools .....	..	..	..	..	..
High schools .....	..	33,508	10,728	2,328	8,218
Day vocational schools .....	22,279	..	..	..	..
Part-time and continuation schools ..	128,922	..	..	..	..
Evening vocational schools .....	47,726	..	..	..	..
Americanization (day and evening) ..	73,436	..	377	20	684
Other evening schools .....	72,381	1,047 <sup>2</sup>	..	..	..
Training schools and classes .....	6,072	2,023	..	..	..
Special schools .....	3,011	201	..	..	..
Normal schools (all departments) .....	10,899	1,431	..	..	..
Indian schools .....	838	..	..	..	..
Academies reporting to University ..	77,349	4,963	2,119	218	1,045
Private schools not reporting to University <sup>3</sup> .....	275,000	..	..	..	..
Universities, colleges, professional schools and other higher institutions ..	95,720	13,375	..	..	..
<b>Total</b> .....	<b>2,752,729</b>	<b>58,458</b>	<b>13,224</b>	<b>2,566</b>	<b>9,947</b>

<sup>1</sup> Including under high schools vocational school graduates, but not including 124,461 children who completed the work of the elementary schools.

<sup>2</sup> Graduates of public evening high schools.

<sup>3</sup> Estimated.

number going from secondary schools to institutions of higher learning.

Tables 4 and 5 reveal in New York the same general failure to hold children in school until graduation as characterizes the situation in the nation as a whole. This failure would seem to emphasize the increasing need for provision of educational opportunities through evening schools, part-time schools, and apprenticeship classes for young persons between the ages of fourteen and eighteen years who have entered upon employment in industry and commerce.

Table 6 shows the enrolment in trade and industrial schools in New York State over a term of years, as divided between schools which received federal aid and those which were supported wholly or in part by state and local funds. The enrolment in continuation schools, increasing from 30,236 in 1920-1921 to 158,603 in 1926-1927, is of special interest.

TABLE 6: ENROLMENT IN TRADE AND INDUSTRIAL SCHOOLS IN NEW YORK STATE, 1920-1927

(Source: Federal Board for Vocational Education and New York State Department of Education)

Vocational Schools	Enrolment							Number of Cities Maintaining Schools in 1926-1927
	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	
All-day schools.....	..	..	..	..	..	14,877	15,917	..
Federally aided <sup>1</sup> ....	..	..	..	3,357	10,403	10,761	11,613	..
Non-federally aided..	..	1,738	..	..	3,097	4,116	4,304	..
Unit trade.....	7,321	8,750	9,234	9,377	10,403	10,769	..	14
Unit technical.....	309	813	1,975	2,264	3,162	3,692	..	4
General industrial...	..	721	876	883	954	..	..	14
Continuation or part-time schools (all federally aided)...	30,236	48,538	51,198	89,104	110,591	128,919	158,603	102
Boys.....	..	..	..	48,248	..	72,531	88,394	..
Girls.....	..	..	..	40,856	..	56,388	70,209	..
Evening industrial schools (none federally aided) <sup>2</sup> .....	..	25,155	..	..	33,070	32,775	32,417	47

<sup>1</sup> All male.

<sup>2</sup> Plan adopted in 1928 provides for the allotment of one-third of the federal aid to evening apprentice training classes.

## 16 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

A classification of the public evening school enrolment is presented in Table 7. In this field of education, classes for immigrants were most popular; general academic instruction ranked second in point of numbers enrolled; and industrial education, with 16% of all the persons enrolled in evening classes, ranked third.

TABLE 7: PUBLIC EVENING SCHOOL ENROLMENT IN NEW YORK STATE FOR YEAR ENDED JULY 31, 1926

(Source: New York State Department of Education)

Size of Community	Course								Industrial Enrolment Per Cent of Total
	Industrial	Immigrant	Elementary	Academic	Commercial	Home-making	Miscellaneous	Total	
100,000 and over . . .	28,998	60,717	6,068	43,219	14,077	13,691	4,845	171,615	16.9
50,000 to 100,000 . . .	1,846	5,644	257	1,248	1,743	2,070	1,196	14,004	13.2
25,000 to 50,000 . . .	950	2,742	161	174	1,356	773	36	6,192	15.3
10,000 to 25,000 . . .	599	2,957	235	164	1,577	1,292	221	7,045	8.5
Under 10,000 . . . . .	61	2,177	..	31	189	352	93	2,903	2.1
Villages and rural districts . . . . .	..	786	..	..	..	61	..	847	..
Total . . . . .	32,492	75,023	6,721	44,836	18,942	18,201	6,391	202,606	16.0
Per Cent . . . . .	16.04	37.03	3.32	22.13	9.35	8.98	3.15	100.0	..

Educational progress in New York State over a period of twenty-one years is shown in Table 8. During this period the population increased only 38%, but the number of children attending school increased 49.6%, high school attendance increased by 274.6% and school expenses by 439%. This tremendous growth in high school enrolment has been fostered by improved economic conditions, by the adoption of the compulsory attendance program, the enrichment of the curriculum to make it more inviting, the institution of the elective system, and the growing popularity of the "stay in school" movement. At the same time, these various changes have necessitated additional expenditures. Enforcement of the attendance laws requires a large corps of special officers, while the expanded curricula require more teachers, higher salaried teachers, more buildings and more equipment of other kinds. The post-war decline in the purchasing



power of the dollar has also had much to do with the growth of expenditures.

TABLE 8: EDUCATIONAL PROGRESS IN NEW YORK STATE, 1905-1926

(Source: New York State Department of Education)

	1904-1905	1925-1926	Increase	
			Amount	Per Cent
Total expense of schools . . . . .	\$47,803,672	\$257,672,042	\$209,868,370	439.0
Number of children of school age (5-18) . . . . .	1,797,238	2,633,167	835,929	46.5
Number of children who have attended public schools during year . . . . .	1,311,108	1,961,375	650,267	49.6
Pupils in high schools . . . . .	86,736	324,911	238,175	274.6
Total population <sup>1</sup> . . . . .	8,192,000	11,303,000	3,111,000	38.0

<sup>1</sup> Estimates based upon U. S. Census of Population.

No extended discussion is required to show that educational costs have increased or to make clear the reasons for that increase. Every observant citizen knows that his tax bills have grown, and at the same time he is aware of the broadening of the school curriculum and of the growing proportion of children being benefitted by school training. These trends in educational activity in the United States as a whole are familiar. The extent to which they have been operative in New York State will be subsequently outlined.

## CHAPTER II

### VOCATIONAL TRAINING TENDENCIES IN PUBLIC EDUCATION

**D**EVELOPMENTS since the World War have materially changed the character of the labor market. As a result of reorganization and mechanization of processes, some occupations formerly open only to skilled artisans now employ a less skilled type of worker. On the other hand, many routine tasks which were performed by unskilled labor are now performed, in part, by labor-saving machines which require a more intelligent type of worker for their operation. New occupations have also been created and the character of related occupations has been greatly modified by recent inventions, such as the radio. As a result of these various changes there is an increased demand in the labor market for intelligent workers with a knowledge of the basic principles or operations in particular fields and a certain amount of manual skill.

The schools are beginning to shape their courses of study to meet these new conditions and to provide the training prerequisite for many kinds of employment. The self-interest of the employer naturally dictates his desire to engage persons having the appropriate degrees of skill, while personal welfare should prompt the prospective employee to equip himself with the greatest possible degree of knowledge and skill in order that he may command a good position and be qualified for advancement. Thus a situation exists which stimulates employers, school authorities and the general public alike to encourage industrial education.

#### THE RECRUITING GROUND FOR INDUSTRIAL LABOR

The majority of the boys and girls of New York and other states leave school almost as soon as the law allows. This means that at about the time of completion of the elementary

grades, or before finishing high school, and generally before obtaining any industrial training, this great army of young persons voluntarily separates itself from those others who continue their educational training. Until recently, there have been in New York State nearly twice as many children in the fifth grade as in the first year of high school, and only about one-third of those entering high school have completed the course.

From this group of young persons leaving school at an early age, industry and commerce may recruit the bulk of its unskilled labor. Unless such persons supplement their school training by an apprenticeship, or by taking courses in trade, industrial, technical or continuation schools, their opportunity to push upward to the level of skilled workers is greatly limited.

While it is to be regretted that so many leave school prematurely with the view to earning a living, it is to be regretted still more that most of them are not even qualified to choose a vocation or adequately to meet the demands of employment. As a rule, they have had neither vocational guidance nor training. Being unqualified both as to age and as to ability for entrance into the skilled trades, and not really knowing their own minds, they drift from job to job and frequently find themselves in "blind alley" jobs. This group, made up of those who have left school—most of whom did not graduate from any school, others who are elementary or high school graduates, trade or technical school graduates and graduate apprentices—offers itself to industry. From this group of candidates, largely unskilled individuals, the employer of industrial labor obtains most of his new recruits. Since industry will find it necessary to train many of them to skilled workers, it becomes evident that more vocational guidance and training in preparation for industrial employment might advantageously be given in the public schools.

#### VOCATIONAL GUIDANCE

Vocational guidance differs vastly from vocational education, and should logically precede it. Actual education for a vocation, or at least training for one specific vocation, should

not be begun too early in life. The child should have the advantages of a general education as a foundation for vocational education. During this period of general education, the student should receive vocational information and guidance but not formal vocational training. As a rule, even the gainfully employed from fourteen to seventeen years of age, who go to continuation school because of the compulsory features of the law, are perhaps not adequately prepared for vocational education. Their knowledge of industry is limited and the common tendency is for them to drift from one minor job to another. Labor turnover has heretofore provided about the only method by which the young worker could obtain vocational knowledge. Many young persons learn in this way, but it is a very expensive process for them as well as for industry. Continuation school courses are more often considered as prevocational than as vocational, the effort being to help boys and girls to find themselves, and to guide them into correct channels of interest and activity.

The ideal situation, no doubt, would be one in which all children completed the elementary school, and all those with the necessary mental ability completed high school, before seeking employment. This objective undoubtedly is contemplated by the public school system, and is, in fact, held out as an opportunity to all.

At the dividing line between elementary and secondary school, twelve to fourteen years of age, the student is usually given a choice between various courses leading to particular vocations. Especially in the localities having the better-equipped school systems, he has a choice in high school of vocational, technical, commercial, general or college preparatory work.

The modern junior high school is a helpful agency for vocational guidance, because instead of waiting for the pupil to arrive at high school standing at the end of the eighth grade, as was the former custom, it receives him at the beginning of the seventh grade and opens to him a three-year program of trial courses which are especially designed to help him to discover his tastes and aptitudes. The junior high school affords a variety of courses and a flexible curriculum for pupils entering the age period when the desire to enter upon

active employment first appears. Not only may the student experiment within the limits of any one of these courses, but he has reasonable liberty to change from one course to another in order to find where he belongs from the point of view of interest and inclination. Guidance programs are being developed in the junior high schools of the state. Nineteen such schools have scheduled formal class guidance periods. The average amount of time devoted to those periods is 23 minutes a week in the seventh year, 43 $\frac{1}{3}$  minutes in the eighth year and 64 minutes in the ninth year.<sup>1</sup>

In New York City the plan has been followed, wherever possible, of grouping junior high school pupils into "rapid-progress," "normal-progress" and "slow-progress" classes so that no pupil need feel discouraged when he compares his abilities with those of his classmates. The "slow-progress" classes generally are permitted to follow a modified course of study in order to complete their grades in schedule time. In some cases, children who have completed the fifth grade are admitted to junior high school to pursue modified courses of study. This is done in order to hold in school, and to arouse the interests and ambitions of, those students who might otherwise leave school before completing the sixth grade.

Courses of an industrial character in the junior high school are designed especially to give the pupil knowledge of many vocations, and if possible to help him select one vocation as his own before he goes out into industrial employment. The idea of continuing in high school or trade school until considerable proficiency has been acquired in the chosen field is kept uppermost in the minds of the pupils. Junior high school students generally have the chance to explore such vocational courses as carpentry, cabinet-making, electrical wiring, concrete work, sheet metal work, machine-shop practice, automobile repair work, home-making, home economics, and others of equal importance.

If students are not made acquainted with the background of industrial training in the junior high school, they are likely to meet with difficulty in making a wise selection of courses

<sup>1</sup>"The Junior High School in New York State," *op. cit.*, p. 108.

should they enter the senior high school or a vocational school. Not only are they in doubt concerning their desires in the matter, but, unless other vocational guidance is given them, they have no knowledge or background to guide them in making a choice of vocation. It happens in such cases that many high school students get into the wrong department, or drop out of school because the work is not sufficiently interesting to hold them.

A greater problem is presented, however, in the elementary grades. Approximately one-half of the students entering the fifth grade in New York State do not enter high school. Most of those who leave school, no doubt do so with the idea of going to work. Because of their youth and lack of knowledge they are of little use to industry, and their meager education is of scant economic value to them. Employment as messengers, errand boys or girls, mail or delivery clerks, for work at information desks, or in stock rooms is about the best they can obtain. Such service does not require any special skill, and therefore holds out little promise as permanent employment. There is a chance in these types of employment, however, to observe the requirements and the rewards of various vocations and thus to obtain some vocational guidance. Furthermore, those under seventeen years of age probably attend continuation school four hours a week and may be given prevocational or vocational aid there.

Many children leave school before graduation from the elementary grades without having received any vocational guidance whatever. Generally such children dislike school or are unable to master the prescribed course, and so leave and go to work. Much benefit would probably come from a feasible plan which would hold them through the sixth grade and which would give them some knowledge of the limited possibilities for the unskilled laborer, as well as of the requirements for various trades and occupations in the semi-skilled and skilled classes.

Since there are not enough junior high schools in New York State to accommodate half of the children in the seventh, eighth and ninth grades, this type of school can not be solely relied upon for vocational guidance. To erect and to equip

an adequate number of buildings for junior high school purposes will entail great additional expenditures, and considerable time will be required to meet the state's needs in this particular. Some important cities have not made even a start in establishing junior high schools, and in other places schools of this character are not organized for vocational guidance instruction. In New York City, provision has been made for a Director of Vocational Guidance, and guidance teachers have been assigned to a few of the junior high schools, each teacher serving two schools. This program is in the experimental stage, having been instituted at the beginning of 1927. Advocates of vocational guidance are urging the expansion of the program, and the indications are that other counselors will be appointed as soon as necessary arrangements can be made.

Many so-called junior high schools do not offer the three courses of general, commercial and industrial training and have, in fact, made little change in the regular program except to departmentalize the seventh and eighth grade work. Under such a practice, vocational guidance is usually neglected.

To be adequate, a vocational guidance program might well be planned for the elementary schools as well as for junior and senior high schools. At the present time, industrial arts courses are being given in the seventh and eighth grades in some school systems. Schools giving such training are called prevocational schools. It would seem that this work might readily be expanded into effective vocational guidance. The course could be introduced as early as the sixth grade, and in special cases in the lower grades also, in order to assist pupils who may be slipping in school morale and facing difficulties in their work. Furthermore, guidance instruction might be made available for ungraded classes and for all retarded pupils who are twelve years of age or over.

In suggesting the introduction of vocational guidance into the elementary school, the idea is not to make industrial employment seem so attractive as to lure boys and girls from academic or scientific courses. In fact, the opposite effect should follow. Vocational guidance or education does not refer only to industrial life but to professional and to literary

careers as well. Boys who dream of becoming lawyers, doctors or preachers could well profit by receiving broader knowledge of those professions and of their rewards—even an elementary school could give them more information than many of them acquire independently before entering professional schools—and the boys who are likely to leave school because of dissatisfaction or discouragement might be held and even restored to tolerant views toward arithmetic and other disliked subjects.

In New York State as a whole, the program of vocational guidance is not, as yet, fully organized, correlated or adequate. The State Department of Education issued a bulletin<sup>1</sup> in November, 1927, dealing with the organization and administration of such a program. This constituted an endorsement of the guidance idea and recommended methods of installing and carrying on the work. The recommended state plan for the organization of vocational and educational guidance activities in the public schools has in general four important features: a central guidance bureau, particularly for cities of 25,000 or over; school counselors for special service; guidance through work of classroom teachers; and guidance through supplementary activities.

#### NEED FOR INDUSTRIAL TRAINING

The industrial world of today requires a higher grade of employee than has been in demand in past years. Industry has grown more ambitious, more scientific and more exacting than ever before. More intelligence is demanded for the invention, operation, adjustment and repair of machinery, while the field for mere brawn becomes more and more restricted.

Probably few individuals today will deny the importance of at least some education and training for workers in industry. As a rule, the more general education such workers have, the more adaptable they are to various occupational requirements and the more certain of meriting promotion. The laborer who is educated to perform only one operation or to operate one machine, even though he may be an expert

<sup>1</sup> University of the State of New York, Bulletin No. 887, Albany, N. Y., 1927.



at his job, stands little chance of progressing beyond that stage. Furthermore, he is in danger of feeling hedged in by the seemingly impossible tasks around him, and of becoming discouraged and dissatisfied. Since there is a more or less fixed wage for each task, even the expert employee generally draws little more than the standard pay for that type of work, and his only hope for advancement is to qualify for a different and higher-paid position. Specialized knowledge of one operation trains a man only for a rut and for time-serving, but general knowledge, in addition to specialized skill, makes possible an understanding of the industry as a whole, and enables the worker to be of greater use to his employer as well as to benefit himself. The man who has a general education which qualifies him for a number of tasks may compete more successfully with his fellow-workers for advanced positions.

Industrial education creates both social and economic values. Proper schooling and training for the youth preparing to enter industry enable him to obtain a better initial position, place him in line for promotion, assure him of a better wage or salary and qualify him for more efficient service as a citizen and as the head of a family. The question may arise as to what is proper education, for many writers have claimed that most of the children who leave school at an early age do so because of inability to do the work of the regular school. The problem has arisen in large part from the nature of the curriculum of the traditional academic grade school, and the frequent failure of educators to understand human nature. By modifying the program to suit the needs of the child after he reaches the sixth or seventh grade—in special cases much earlier—rather than by continuing a vain effort to force the child to conform with a school plan unsuited to his needs, the chances are that school will hold out fresh allurements to him and he will not wish to drop out because of inability to do the work.

The proper solution of the problem, however, is not to take the backward child out of school and to start him into industry at an early age, but rather to change the school program so as to teach him a useful occupation. It would mean gain to industry as a whole, and to workers in particular,

if the schools should develop courses of study which will meet the practical needs of these pupils. It is easy enough for efficient schools to identify pupils who are not mentally equipped to go beyond the elementary or secondary grades, and to train them for definite occupations. By linking together the elementary grades and the technical high schools or industrial schools, such training would contribute to the development of semi-skilled workers from pupils who otherwise might be consigned forever to the ranks of the unskilled and discontented wage earners.

For the youth who is already employed in industry, the educational opportunities which are open may likewise mean the broadening of his qualifications for service. By attending a continuation or evening industrial school, or by accepting training as an apprentice, he may greatly improve his standing as an employee.

The employer derives a decided advantage from efficient labor. It is expensive to hire and to train employees, and many laborers soon demonstrate that they are unqualified for advancement or for effective service. Manufacturers everywhere declare that skill is an important factor in increased output, and when manpower is not developed to the maximum by industrial education, the employer is handicapped by the lack of intelligence and skill on the part of his employees. If employees were better educated, it would probably mean less labor turnover for the factory and less waste of time and materials. Education would also enlarge the sphere of consumers' wants, both qualitatively and quantitatively. This last-named consideration is of more importance to industry than is sometimes realized. In many cases it is no less important for the employer to develop a buying clientele than to produce a commodity. The higher the consumers' standard of living, the more extensive is the market for the output of industry. The employer also has an interest as a taxpayer in the procurement of desirable results from the educational facilities toward the maintenance of which he so largely contributes.

Finally, the education of industrial employees has a value for the public in general. Society always benefits from the raising of standards, and standards can be raised only as the

people themselves elevate and support them at new levels. A community of factory laborers who are all high school or trade school graduates undoubtedly has better schools, churches, homes and surroundings and higher standards of living, and constitutes a more progressive unit of state citizenship than another community of workers who have not taken advantage of educational opportunities.

### GENERAL PRINCIPLES INVOLVED

Establishment of the need of industrial training still leaves the question of how best to provide for that need. It is quite evident that the old type of school curriculum is not adequate. Although the subject of methods of industrial education is somewhat new and unproved, there are at least a few general principles upon which limited agreement has been reached by educators and industrialists who have given some attention to industrial education. These principles are briefly outlined here as constituting a basis from which further consideration of this new type of educational philosophy and technique can proceed.

The first of these principles has to do with methods of teaching. The training should be for a definite job or vocation. To a very great extent the effectiveness of industrial training is determined by the definiteness with which the purpose of the instruction is defined and directed. At the proper time, after the abilities, inclinations and circumstances of the pupil are known, both teacher and student should agree upon an objective—a goal to be pursued by and for the individual.

Industry demands definite abilities and accomplishments from labor, and the industrial training school is of service only in so far as it contributes to the desired results. The student, therefore, should be made familiar with the scope of the vocation as it is actually practiced, and should then be taught specific methods rather than be limited to general principles. Since information is available to show both the requirements of the job and the abilities of the average man holding such a job, it ought not to be difficult to train new workers.

It is also desirable to relate the training of vocational students to practical experience in industry. Some employers go so far as to contend that certain jobs can be learned accurately, completely and within the shortest possible period of time only in the factory itself. In a limited sense this is true, and the argument is especially valid for jobs on machines, in laboratories, or under circumstances where the same conditions can not be duplicated in school-rooms; nevertheless, the student learning a vocation in school can accomplish enough so that the balance of the required training can be gained quickly in the factory. About the only way for an entirely unskilled man to become a skilled and competent craftsman within a factory is for him to enter under a contract of apprenticeship. As a matter of fact, apprentice training opportunities in industry and trade are limited, and consequently a school system organized for pre-vocational and vocational training offers about the only hope for encouraging young workers to obtain experience of a type which will lead to positions requiring all-around skill. Furthermore, employers in New York State neither engage large numbers of children nor accept apprentices under the age of sixteen, and if the school, by means of industrial education, can hold the prospective employee until the beginning of his or her seventeenth year, there is opportunity to give considerable training of practical value. Not only should the industrial training of school children be made practical, but those employed young persons who are taking industrial courses in school should be taught along lines which will supplement their experience in daily work.

The second general principle to be considered is that of cooperation. A school giving industrial training should not be an isolated unit, for its effective operation requires the cooperative efforts of educators, employers and employees. Classes ought to visit factories, learn factory and shop methods, and be taught by men with factory and trade experience. Teaching may be, in this way, a program of cooperation between school men and expert shop workers. It is often possible for an employer who is awake to the needs and importance of industrial classes in the public schools to furnish equipment or space for class meetings. Employers often

cooperate also in supplying skilled instructors from their own plants. Since the purpose of the school is to perform the greatest possible service for the individual and for society, and since the employer benefits from the training given to the future employee, there is no reason why more complete cooperation should not exist.

Finally, the question of centralized control deserves consideration. Three groups of legal and administrative requirements must be met in the field of industrial education. The first of these is the federal Smith-Hughes law, the second consists of the rulings of the Federal Board for Vocational Education, and the third is comprised of the laws of New York State, together with the regulations adopted by the State Board of Education.

The Smith-Hughes Act, which became effective in 1917, provides for grants by the Federal Government to assist the states in the promotion of vocational education. Congress appropriates, for distribution among the states, funds amounting—up to a certain limit—to one-half the salaries of vocational teachers and to one-half of the expense incident to the maintenance of training for teachers of vocational subjects, but requires the state accepting such assistance to match the federal fund, dollar for dollar.

The distribution of the funds provided under the federal grant among the cities and school districts of New York State is made on the following basis: One-third is apportioned to those cities and school districts maintaining approved evening apprentice training classes, one-third to those maintaining part-time or continuation schools and one-third to those maintaining trade schools. In the first case, the sum allotted is equal to one-half of the salary of each approved teacher of a trade or industrial subject, or a subject intimately related to a trade or industrial occupation, but not more than \$200 on account of any one teacher. In the second case, the amount is determined by the salary of the supervisor or first teacher, only one quota being allotted to a city or school district. This quota represents a sum equal to two-thirds of such portion of the salary paid to the supervisor or first teacher as is in excess of \$1,500, but shall not exceed \$1,000 of aid in any one instance. In the third

case, the allotment represents one-third of the salary of each teacher of trade shop work and related subjects, but not more than \$500. The entire system of distribution is subject to the provision that if in any one year the amount of money available is insufficient to pay the quotas as planned, the amount available will be pro-rated on the basis of the planned allotments.

Centralized control of vocational education is encouraged by the Smith-Hughes Act, in that the law sets up minimum conditions which the states must observe in order to share in the distribution of federal funds, and in that the Federal Board for Vocational Education passes upon the plans proposed by the states. Although the Federal Board neither attempts to dictate the educational policies nor to alter the existing educational systems of the states, it points out that Congress has approved definite levels and programs of educational accomplishment, and is ready to appropriate funds to any state desiring to meet the national standard. This form of centralized control appears to be attractive, even if not obligatory, for every state in the Union has arranged to meet in most respects the federal standards and to accept the proffered contribution.

The Assistant Commissioner of the Division of Vocational and Extension Education of the New York State Department of Education says that "the stimulus given by a strong central organization with nation-wide jurisdiction such as the Federal Board has, is helping our state incalculably in developing a more complete program of vocational education."<sup>1</sup>

#### NEW YORK STATE LAWS

New York was a pioneer in the matter of state vocational education laws. The first vocational law was adopted in 1908 and amended in 1913, and provided for state aid to agricultural, industrial, trade and home-making education. In June, 1917, there were sixty-eight high school departments of agriculture, sixteen unit trade schools, twenty-four general

<sup>1</sup>Lewis A. Wilson, in "The Effect of the Smith-Hughes Act in an Industrial State," an address delivered at the Twelfth Annual Convention of the National Society for Vocational Education, St. Louis, Mo., February 20-22, 1919.

industrial schools, ninety-six evening industrial schools or departments, and fifty-nine schools of home-making. In most of these schools, the standards were fully as high as those set by the federal act.

When the Smith-Hughes Act took effect, therefore, in 1917, no new program of work was necessary in New York. As a consequence, no great difficulty was encountered in arranging to obtain and to expend the funds from Washington. Since the state of New York was already expending for vocational education several times as much money as was allotted to it by the Federal Government, and could not have curtailed state expenditures very materially even by substituting federal for state funds, it decided to use the former fund for expanding the existing program. This was done by apportioning the money from the new source to local communities in order to encourage them to do more in the vocational training field. Each locality was required, before obtaining any federal money, to obtain approval of its plan for conducting and extending vocational activities.

Thus the programs of vocational education, while remaining technically within the sphere of the states, are voluntarily modified, harmonized and correlated in accordance with a central standard with the end in view of obtaining funds from the Federal Government.

## CHAPTER III

### EDUCATION FOR INDUSTRIAL SERVICE IN NEW YORK STATE

**I**NDUSTRIAL education is of special importance to New York because of its position as the leading industrial state. In the number of large industries, the number of manufacturing establishments, the value of factory output and the number of wage earners engaged in manufacturing, New York leads all the other states.<sup>1</sup> The provision of adequate industrial training for prospective wage earners should, therefore, have a place of importance in the educational program of the state's public school system.

The development of trade education as a definite part of a public education program is attributed by the New York State Department of Education to the following general conditions: "(1) a lack of provisions within modern industrial organizations to train and educate workers for economic independence; (2) a decrease in the number of skilled workers coming from foreign countries to provide our industries with artisans; (3) the early elimination of large numbers of juveniles from school without the essentials of an education for citizenship or for earning a livelihood; and (4) a recognition of the need for conserving the earlier education of the youth and retaining him in the public schools until he reaches the age when he may enter into desirable employment."<sup>2</sup>

#### UNIT TRADE SCHOOLS

One of the most important agencies of industrial education is the unit trade school, which is defined by the State Department of Education as a "school or class established and maintained under public supervision and control for the purpose of fitting persons over fourteen years of age, who

<sup>1</sup> National Industrial Conference Board, "Industrial Progress and Regulatory Legislation in New York State," New York, 1927, pp. 9-11.

<sup>2</sup> University of the State of New York, Bulletin No. 781, *op. cit.*, p. 6.



have completed at least the sixth grade, for useful employment in a particular trade or industrial pursuit." Some cities require students to complete the eighth grade before entering a unit trade school.

Trade schools may be established in any community when authorized by local authority under a plan approved by the State Department of Education. The requirements are that a plan to receive such approval must include a detailed study of the dominant trades or occupations of the community, a description of the proposed school plant and equipment, together with a statement of an administrative program and of the salaries to be paid to teachers. Teachers must hold permanent or limited vocational certificates and the equipment of the school must be of approved commercial standard.

Specific trade education consists of the teaching of the fundamentals of a trade or industrial occupation. Instruction is given in such lines as printing, carpentry, cabinet-making, machine-shop practice, tool-making, sheet metal working, mechanical drawing, pattern-making, auto-mechanics, electrical wiring, bricklaying, plastering, plumbing, architectural drafting, sign painting, jewelry case making, book-binding, lithography, commercial design, photography, upholstery, shoe cutting and fitting, tailoring, dress-making, garment and straw and glove machine operating, millinery, novelty work and sample mounting. Additional general courses are provided in English, civics, industrial and American history, mathematics, trade science, trade drawing and hygiene.

As a rule, the course in a unit trade school covers a period of two years, although the trend in Buffalo and other cities having the best unit trade courses is toward a four-year course. The subjects generally taught are divided into three groups, namely: trade shop work, organized on a useful and productive basis; related technical work, including drawing, mathematics and science; and academic work. The ideal plan is to correlate the teaching of theory and general cultural subjects with practical experience in the shop.

Localities establishing unit trade schools may obtain state and federal aid in payment of teachers' salaries. A substantial part of the salaries of vocational school teachers as well as

### 34. PUBLIC SCHOOLS AND THE WORKER IN N. Y.

of teachers in the elementary and high schools is contributed by the state. Federal aid may be obtained only for the salaries of teachers engaged exclusively in trade instruction. While the federal aid previously described is less generous than state aid, the two combined generally cover about two-thirds of the salaries of teachers of all trade and related subjects. The expense borne by the community where the school is located amounts, therefore, to the cost of land, building, equipment, maintenance, and approximately one-third of teachers' salaries.

New York State has made a special effort to develop unit trade schools, in the belief that they provide the best means for training for service in industry and commerce. The program has been greatly handicapped by lack of adequate buildings and equipment but, nevertheless, considerable progress has been made in the last two or three years. In 1926-1927 there were 11,613 pupils attending unit trade schools in the state.<sup>1</sup> It is expected by the State Department of Education that interest in this type of school will increase steadily, and that the further development of exploratory courses in junior high schools, and the organization of vocational and educational guidance programs in many public school systems will encourage the growth of the unit trade schools.

Buffalo has undertaken the most comprehensive building program of any city in the state for this type of school, and has in operation four well-developed trade schools. Two of these schools are housed in new buildings of the most modern type, each containing 75,000 to 85,000 square feet of floor space. Each of the four existing unit trade or vocational schools is equipped to accommodate about 500 boys. One was not completed until after the opening of the 1927-1928 school year, but even under those circumstances it had over 300 boys in attendance. The other three schools are operating to capacity. The construction of a \$1,000,000 building for still another vocational school will be started during the school year 1928-1929. Buffalo has no vocational school for girls but there is a demand for such an institution. In fact, the Manhattan Trade School for Girls, located in New

<sup>1</sup> "Annual Report, 1928," *op. cit.*, Vol. I, p. 139.

York City, is the only existing unit trade school in the state which is devoted exclusively to the vocational training of girls, although a new school of the same type is being constructed in Rochester. New vocational schools have been completed in Niagara Falls and Dunkirk, and an addition has been made to the existing school in Yonkers. The junior high schools of Rochester and some other cities offer industrial courses which are fairly comparable to unit trade work. The growth of unit trade schools throughout the state is shown by data recorded in Table 9.

TABLE 9: ENROLMENT IN UNIT TRADE SCHOOLS IN NEW YORK STATE BY SCHOOL YEARS, 1918-1926  
(Source: New York State Department of Education)

Location of School	Number of Trade Courses Offered, 1925-1926	Enrolment							
		1918-1919	1919-1920	1920-1921	1921-1922	1922-1923	1923-1924	1924-1925	1925-1926
Albany.....	3	101	113	107	98	98	110	125	102
Buffalo.....	30	875	855	891	1,141	975	1,181	1,605	1,721
Canaan (Berkshire Industrial Farm).....	3	..	..	..	..	44	76	85	110
Elmira.....	2	70	117	149	190	142	139	64	26
Freeville (George Junior Republic).....	2	..	..	..	18	34	26	31	16
Jamestown.....	1	..	..	40	37	35	34	33	43
Mount Vernon.....	5	207	186	172	202	240	246	256	223
New York City.....	45	3,863	4,179	4,602	5,584	5,997	5,892	6,259	6,603
Niagara Falls.....	6	..	30	108	146	116	110	163	134
Rochester.....	15	457	599	642	799	970	1,085	1,335	1,324
Troy.....	5	75	101	126	106	106	99	113	149
Utica.....	2	..	..	82	48	61	110	75	64
Yonkers.....	14	293	433	402	381	416	269	269	254
Total.....	133	5,941	6,613	7,321	8,750	9,234	9,377	10,413	10,769

TECHNICAL SCHOOLS

Another type of vocational training offered to students in some high schools of New York State is that furnished by what are known as unit technical courses. These courses have as their purpose, as set forth by the State Department of Education, the preparation of "young persons during a three or four-year senior high school period for entrance into technical occupations requiring thorough preparation in mathematics, science and special technical subjects."

Courses of this type have been conducted since 1920, when an amendment to the Education Law made state aid available. The regulations require that:

- (1) Instruction must be provided each school day for eight 45-minute periods, or the equivalent.
- (2) One-half of the time of school attendance must be given to technical subjects and shop work, the other half to academic subjects.
- (3) Courses must meet the requirements for an academic diploma in technical subjects.

The technical courses offered include printing, electricity, tool-making and design, machine-shop practice and design, auto-mechanics, building design and construction, mechanical and architectural drawing, poster design, costume design, interior decoration, industrial chemistry, plumbing, sheet metal work, and the weaving, knitting, and dyeing of textiles.

Graduates of these schools are usually qualified to enter a technical college or to take up employment in the laboratories, drafting rooms or junior technical occupations of industry.

Buffalo, Utica, Yonkers and New York City have public high schools offering unit technical courses. The registration has grown rapidly from 309 in 1920-1921 to 3,500 for the year 1926-1927.<sup>1</sup> In addition to the public technical high schools in these four cities, there are several private schools conducting similar work.

#### GENERAL INDUSTRIAL SCHOOLS

Under the state Education Law "the board of education of any city may establish, acquire, conduct and maintain as a part of the public school system . . . general industrial schools in communities of less than 25,000 inhabitants, open to pupils who have completed the elementary school course or who have attained the age of fourteen years."<sup>2</sup>

The purpose of general industrial schools is to fit young persons "for useful employment in a specific trade group or

<sup>1</sup> "Annual Report, 1928," *op. cit.*, Vol. I, p. 149.

<sup>2</sup> "Education Law," *op. cit.*, Article 22, Section 600.

in a limited way for a specific trade or industrial pursuit."<sup>1</sup> Small industrial communities which can not maintain unit grade or unit technical courses have a local interest in providing general industrial schools. This type of school is relatively scarce in New York State, however, because of the great per capita expense of maintenance in a small community. In order to have an approved school giving training in the building, printing, metal and other trades, it is necessary for a small community school to possess almost as much equipment as is required in a large city school. Probably for this reason the law authorizing these schools leaves their establishment to the voluntary decision of the locality concerned. Some communities have found it too expensive to maintain such schools even after setting them in operation.

Under the law, a pupil fourteen years of age is eligible to enter a general industrial school regardless of his previous educational attainments. The State Department of Education, however, in the interests of efficient administration, has ruled that such a pupil must have completed at least the sixth grade. As a rule, instruction in general industrial schools is planned to correspond to the first two years of high school. The first year's program covers general industrial education, followed in the second year by distinctly vocational training.

In the year 1925-1926 there were 821 pupils in twenty-one general industrial schools, the enrolment having increased only about 25% during the preceding five years. In 1926-1927 the number of schools was reduced to sixteen and their enrolment to 606.<sup>2</sup> Most of the sixteen schools were able to continue operation only because a plan of cooperation in use of equipment was worked out with the part-time and the evening trade extension classes.

Another factor in the situation with respect to general industrial schools has been the aid given by the state in payment of salaries of teachers. In order to obtain this aid, the school must have an average daily attendance of twelve in each shop class, must provide standard equipment, must devote two consecutive 45-minute periods daily to shop work

<sup>1</sup> "Annual Report, 1925," *op. cit.*, p. 202.

<sup>2</sup> "Annual Report, 1928," *op. cit.*, Vol. I, p. 150.

## 38. PUBLIC SCHOOLS AND THE WORKER IN N. Y.

and one such period to shop drawing, and must employ only teachers with permanent vocational or limited licenses, and must meet other requirements, including the endorsement of the Commissioner of Education.

### PART-TIME OR CONTINUATION SCHOOLS

Under the attendance law of New York State, pupils who leave school between the ages of fourteen and seventeen to secure employment must attend part-time or continuation school four to eight hours per week unless they have graduated from a four-year high school.<sup>1</sup>

This requirement applies only to cities having a population of 20,000 or more according to the last federal census, and to districts having 200 or more employed minors under seventeen years of age. It is provided that part-time instruction "shall be given only between 8 o'clock in the morning and 5 o'clock in the afternoon on regular school days, and between 8 o'clock in the morning and 12 o'clock noon on Saturdays. An employed minor temporarily unemployed is required to attend part-time day school for a period not exceeding twenty hours per week, except for two weeks following the beginning of unemployment."

Classes in continuation schools are held for different groups of students during each half-day of the week, the sessions running from 8 to 12 o'clock and from 1 to 5 o'clock. Some schools hold a Saturday morning session but others find no demand for Saturday classes. Employers are obligated to excuse from work for a designated half-day each week such of their young employees as are of continuation school age. While the obligation for securing the actual presence of the pupil in study classes rests only upon the school, experience has shown that where the school offers worthwhile work the employers usually are glad to support it. A survey by the Department of Education indicated that more than one-half

<sup>1</sup> "Education Law," *op. cit.*, Article 22, Section 601. Under Article 23, Section 622, Subsection I, it is provided that "The school authorities of a city or school district shall have the power upon the request of an employer or a group of employers to authorize the substitution in such city or school district of a half-time system or program of employment and required attendance at part-time day schools for groups of employed minors of specified occupations who are included by the provisions of this section."

of the pupils in continuation school receive pay from their employers for the four hours of absence from employment.<sup>1</sup> An investigation by the National Industrial Conference Board, however, disclosed the fact that out of ninety-six employers reporting their experience with these schools, only twelve paid wages for the time spent in school. These twelve employers included four who maintained their own schools.<sup>2</sup> This latter investigation covered only manufacturing establishments, a fact which probably accounts for the apparent discrepancy in the results of the two surveys. Where, as in the case of commercial and financial organizations, wages are not on an hourly or daily basis, deductions for the time spent at continuation school may not be made, but at the same time such attendance may be taken into account in fixing the weekly wage.

The educational and social theory back of the continuation school program assumes that every child in the state is not only entitled to receive free of charge the fundamentals of an education, but that he is obligated to pursue the advantages thus held out to him, and that his entrance into industry after the age of fourteen, fifteen or sixteen should excuse neither the child, his parents, the employer, nor society from seeing that this obligation is met.

The school has the duty under the law of seeing that employed minors who come under the continuation school requirements are drawn into the school, that employers excuse them for one-half day each week, that attendance is perfect to the extent that all absences are made up, that the vocational instruction offered is fitted to the industrial activities of the community, and that employers are induced to use the school as a placement agency for persons fourteen to seventeen years of age.

The ideal of the continuation school is to provide vocational guidance, general instruction, trade preparatory teaching, trade extension experience and training for good citizenship. Frequently, the task of the school is to guide the pupil in the choice of the right job, and after accomplishing this to

<sup>1</sup> University of the State of New York Department of Education, "Part-Time Schools," mimeographed, 1928.

<sup>2</sup> "Industrial Progress and Regulatory Legislation in New York State," *op. cit.*, p. 78.

train him for the job and to direct his supplementary training after he is definitely located in his chosen field of work.

It should not be assumed that the continuation school is primarily vocational. On the contrary, it is primarily a guidance or prevocational school. The employed boy or girl of fourteen years has not often chosen a life work. Frequently the fifteen-year-old child has left school at the end of the sixth grade because he was not interested in the school course, or because he was unable to do the work required in his grade, and has accepted the first job which opened to him. What he needs from the continuation school, therefore, is help in choosing and preparing for his future place in industry.

Some employers have criticized the continuation school on the ground that it disrupts their production schedule by taking young employees away from the factory for one-half day each week without teaching them anything which is helpful in their daily work. These criticisms are undoubtedly justified in many instances, but other considerations must also be taken into account. In the first place, only a small proportion of young persons under sixteen years of age are being accepted by industry, most manufacturers preferring to do without such young employees rather than to be bothered with employment certificates and continuation school requirements. Then, too, the complaint that the continuation school does not teach the minor anything of practical application to his work is based upon what the Department of Education regards as a mistaken view of the purpose of such schools. The continuation school is planned primarily for the pupil and any immediate assistance to be given should be assistance to the pupil. Such help as is intended for the employer must be deferred for the ultimate employer and, in most instances, it must be only indirect. The pupil may be in the wrong job. If so, society can not afford to neglect his personal interest by wasting his best hours to teach him something about a job which he should not, and will not, retain. Many employed children of continuation school age change jobs several times a year. Being for the most part unskilled workers and having little educational background, they often fall into jobs which pay comparatively well at the



start but offer little chance of advancement. It is the task of the school, if possible, to point the way and to direct the preparation for a more satisfactory connection.

In Rochester, a special committee was appointed by the Chamber of Commerce to investigate and report on the continuation schools. After a thorough examination of the subject, this committee submitted a report which amounted in almost every respect to an endorsement not only of the continuation schools but also of the law under which they are organized. The only recommendations made were that more attention be given to vocational guidance, that no higher maximum age of attendance be required than the present limit of seventeen years, and that pupils who have attained the age of sixteen years be permitted to substitute evening school attendance for attendance at part-time day school. Another committee, composed of representatives of various interests, which was appointed by the Commission of Education to consider the revision of the compulsory education law, disapproved of the proposal to permit the substitution of evening school attendance for that at day-time continuation schools.<sup>1</sup>

The continuation school is a community school. Its course of study should be so shaped as to serve the community. An entirely different curriculum should be offered in a textile mill center than in a machinery or furniture manufacturing locality. It is the duty of the school authorities to provide instruction which will coordinate with the local industries. No doubt the criticisms of continuation schools in some localities result from the failure of the schools to fit their training to the local industrial needs.

The continuation school is of recent development in New York State. It has had its difficulties, many of which have not, as yet, been overcome. Communities have found it expensive as well as difficult to establish, house and equip these additional schools, and to obtain qualified teachers. Teachers, at times, have no doubt failed to realize the true purpose of such schools, or to make the purpose effective, thereby subjecting the institution to local criticism.

<sup>1</sup> See also, opinion of the New York Court of Appeals in *People v. Braunstein*, 248 N. Y. 308 (1928).

42 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

For the year 1927-1928 there were enrolled in the part-time or continuation schools of New York State 168,377 minors between the ages of fourteen and seventeen, of whom 78,105 were girls and 90,272 were boys. Four years previously the registration was only 89,198 and six years ago it was scarcely above 30,000. In 1925-1926 the enrolment was 128,919, the number of full-time teachers 624 and of part-time teachers, 287. The salaries of these teachers amounted to \$1,608,000, approximately 45% of which was paid by the localities, 40% by the State and 15% by the Federal Government. In 1927-1928 the salaries of teachers amounted to \$2,079,145, of which \$784,861 was contributed from state funds and \$228,978 from federal funds. Table 10 shows that the continuation school is now well established in the industrial communities throughout the state.

TABLE 10: STATISTICAL INFORMATION RELATIVE TO PART-TIME SCHOOLS IN NEW YORK STATE, 1926-1927  
(Source: New York State Department of Education)

City or Village	1920 Population	Total Enrolment, 1926-1927			Total Enrol- ment, 1925- 1926
		Boys	Girls	Total	
1 Albany.....	113,344	873	855	1,728	1,638
2 Amsterdam.....	33,524	451	477	928	954
3 Auburn.....	36,192	251	250	501	478
4 Batavia.....	13,541	105	146	251	209
5 Bay Shore <sup>1</sup> .....	..	3	3	3	..
6 Beacon.....	10,996	121	100	221	214
7 Binghamton.....	66,800	358	383	741	803
8 Buffalo.....	506,775	3,502	3,851	7,353	7,037
9 Canandaigua <sup>1</sup> .....	7,356	2	2	2	48 <sup>2</sup>
10 Cohoes.....	22,987	100	179	279	285
11 Corning (dist. 13).....	15,820	9	17	26	41
12 Corning (dist. 9).....	..	23	29	52	68
13 Cortland <sup>1</sup> .....	13,297	3	3	3	..
14 Dansville <sup>1</sup> .....	..	3	3	3	..
15 Depew <sup>1</sup> .....	5,850	3	3	3	..
16 Dunkirk.....	19,336	169	299	468	430
17 Elmira.....	45,305	251	293	544	598
18 Endicott <sup>1</sup> .....	9,500	..	..	..	..
19 Fredonia <sup>2</sup> .....	6,051	19	25	44	39
20 Freeport <sup>1</sup> .....	8,599	3	3	3	..
21 Fulton.....	13,043	79	81	160	174
22 Geneva.....	14,648	49	77	126	129
23 Glen Cove <sup>1</sup> .....	8,664	3	3	3	..
24 Glens Falls <sup>4</sup> .....	16,638	3	3	3	..

<sup>1</sup> District has less than 200 minors between 14 and 18 years of age not in attendance upon full-time day instruction. <sup>2</sup> Compulsory classes under local option. <sup>3</sup> No class maintained during 1926-1927. <sup>4</sup> No classes maintained during 1927-1928.

TABLE 10: STATISTICAL INFORMATION RELATIVE TO PART-TIME SCHOOLS IN NEW YORK STATE, 1926-1927—(Continued)

City or Village	1920 Population	Total Enrolment, 1926-1927			Total Enrol- ment, 1925- 1926
		Boys	Girls	Total	
25 Gloversville.....	22,075	168	142	310	309
26 Hastings <sup>1</sup> .....	5,526	"	"	"	..
27 Haverstraw <sup>1</sup> .....	5,226	"	"	"	..
28 Hempstead <sup>1</sup> .....	6,382	"	"	"	..
29 Herkimer.....	10,453	92	94	186	189
30 Hornell.....	15,025	77	60	137	193
31 Hudson.....	11,745	91	89	180	182
32 Hudson Falls <sup>1</sup> .....	5,761	"	"	"	..
33 Huntington <sup>1</sup> .....	..	"	"	"	..
34 Ilion <sup>1</sup> .....	10,169	"	"	"	..
35 Ithaca.....	17,004	51	56	107	111
36 Jamestown.....	38,917	265	196	461	498
37 Johnson City <sup>4</sup> .....	8,587	67	63	130	122
38 Johnstown <sup>1</sup> .....	10,908	88 <sup>2</sup>	86 <sup>2</sup>	174 <sup>2</sup>	162 <sup>2</sup>
39 Kingston.....	26,688	229	263	492	382
40 Lackawanna.....	17,918	185	211	396	362
41 Lancaster <sup>1</sup> .....	6,059	"	"	"	..
42 Lansingburg.....	..	41	45	86	111
43 Lawrence.....	..	85	87	172	154
44 Little Falls.....	13,029	60	92	152	181
45 Lockport.....	21,308	159	140	299	224
46 Malone <sup>1</sup> .....	7,556	"	"	"	..
47 Mamaroneck <sup>1</sup> .....	6,571	"	"	"	..
48 Massena <sup>1</sup> .....	5,993	..	..	..	..
49 Mechanicville <sup>1</sup> .....	8,166	72	64	136	162
50 Medina <sup>1</sup> .....	6,011	"	"	"	..
51 Middletown <sup>4</sup> .....	18,420	82	86	168	147
52 Mount Vernon.....	42,726	325	329	654	617
53 New Rochelle.....	36,213	194	211	405	353
54 Newark <sup>1</sup> .....	6,964	"	"	"	..
55 Newburgh.....	30,366	246	225	471	420
56 New York City.....	5,621,151	69,580	50,821	120,401	92,440
East Side.....	..	15,071	8,659	23,730	25,231
West Side.....	..	7,915	4,441	12,356	12,586
Bronx.....	..	7,520	5,051	12,571	11,715
Brooklyn—Boys.....	..	14,542	..	14,542	8,294
Brooklyn—Girls.....	..	..	10,773	10,773	6,443
Queens.....	..	3,102	2,343	5,445	4,251
Staten Island.....	..	1,298	1,001	2,299	2,003
East New York.....	..	7,115	6,200	13,315	9,528
Williamsburg.....	..	3,905	3,222	7,127	6,334
Jamaica.....	..	2,200	1,586	3,786	2,817
Commercial.....	..	4,683	2,470	7,153	2,237
Printing.....	..	1,111	..	1,111	764
Building Trades.....	..	367	..	367	..
Needle Trades.....	..	751	1,648	2,399	237
Harlem.....	..	..	3,427	3,427	..
57 Niagara Falls.....	50,760	402	446	848	778

<sup>1</sup> District has less than 200 minors between 14 and 18 years of age not in attendance upon full-time day instruction. <sup>2</sup> Compulsory classes under local option. <sup>3</sup> No classes maintained during 1926-1927. <sup>4</sup> No classes maintained during 1927-1928.

## 44 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

TABLE 10: STATISTICAL INFORMATION RELATIVE TO PART-TIME SCHOOLS IN NEW YORK STATE, 1926-1927—(Continued)

City or Village	1920 Population	Total Enrolment, 1926-1927			Total Enrol- ment 1925- 1926
		Boys	Girls	Total	
58 North Tarrytown <sup>1</sup> .....	5,927	3	3	3	..
59 North Tonawanda.....	15,482	226	231	457	457
60 Norwich <sup>1</sup> .....	8,268	3	3	3	56 <sup>2</sup>
61 Nyack <sup>1</sup> .....	..	3	3	3	..
62 Ogdensburg <sup>1</sup> .....	14,609	3	3	3	..
63 Olean.....	20,506	142	121	263	285
64 Oneida.....	10,541	40	25	65	67
65 Oneonta.....	11,582	24	21	45	38
66 Ossining.....	10,739	90	54	144	126
67 Oswego.....	23,626	168	146	314	329
68 Owego <sup>1</sup> .....	..	3	3	3	..
69 Patchogue <sup>1</sup> .....	..	3	3	3	..
70 Peekskill No. 7.....	15,868	63	91	154	164
71 Peekskill No. 8.....					
72 Penn Yan <sup>1</sup> .....	..	3	3	3	..
73 Perry <sup>1</sup> .....	..	3	3	3	..
74 Plattsburg.....	10,909	81	101	182	171
75 Port Chester.....	16,573	205	202	407	407
76 Port Jervis <sup>1</sup> .....	10,171	3	3	3	..
77 Port Washington <sup>1</sup> .....	..	46 <sup>2</sup>	32 <sup>2</sup>	78 <sup>2</sup>	57 <sup>2</sup>
78 Poughkeepsie.....	35,000	201	286	487	442
79 Rensselaer.....	10,823	78	77	155	155
80 Rochester.....	295,750	3,337	3,340	6,677	5,862
81 Rockville Center <sup>1</sup> .....	..	3	3	3	..
82 Rome.....	20,341	204	182	386	270
83 Salamanca.....	9,276	88	57	145	130
84 Saranac Lake <sup>1</sup> .....	5,174	3	3	3	..
85 Saratoga Springs <sup>1</sup> .....	13,181	3	3	3	..
86 Schenectady.....	88,723	815	875	1,690	1,888
87 Seneca Falls <sup>1</sup> .....	6,389	3	3	3	..
88 Solvay <sup>1</sup> .....	7,352	3	3	3	..
89 Syracuse.....	171,717	860	828	1,688	1,810
90 Tarrytown <sup>1</sup> .....	5,807	3	3	3	..
91 Tonawanda.....	10,068	65	53	118	172
92 Troy.....	72,013	278	257	535	533
93 Utica.....	94,156	705	717	1,422	1,463
94 Walden <sup>1</sup> .....	5,493	3	3	3	..
95 Waterford <sup>1</sup> .....	..	3	3	3	..
96 Watervliet.....	16,073	109	96	205	173
97 Watertown.....	31,285	144	143	287	188
98 Waverly <sup>1</sup> .....	5,270	24 <sup>2</sup>	31 <sup>2</sup>	55 <sup>2</sup>	50
99 Wellsville <sup>1</sup> .....	..	3	3	3	..
100 Whitehall <sup>1</sup> .....	5,258	3	3	3	..
101 White Plains.....	21,031	137	147	284	231
102 Yonkers.....	100,226	1,345	1,228	2,573	2,207

<sup>1</sup> District has less than 200 minors between 14 and 18 years of age not in attendance upon full-time day instruction. <sup>2</sup> Compulsory classes under local option.

<sup>3</sup> No class maintained during 1926-1927.

## SUMMARY OF REGISTRATION FOR 1926-1927

Boys.....	88,394
Girls.....	70,209
Total.....	158,603

As an indication of the types of employment entered by children of continuation school age, a tabulation was obtained from the certificating officer of the city of Buffalo showing the jobs obtained by all children to whom employment certificates were issued from September, 1926, to June, 1927. These data are given in detail in Table 11. It is of interest to note that pupils sixteen years of age went to factories in much larger numbers than did those who were one or two years younger. There were many more messenger boys and errand boys in the younger group than in the sixteen-year-old group, while among the girls there were many houseworkers up to the age of sixteen, after which age they turned in substantial numbers to other employment.

TABLE 11: EMPLOYMENT ENTERED BY YOUNG PERSONS TO WHOM CERTIFICATES WERE ISSUED, BUFFALO, N. Y., 1926-1927

(Source: Coordinator for Vocational Schools, Buffalo, N. Y.)

Occupation	Boys		Girls	
	14 and 15 Years of Age	16 Years of Age	14 and 15 Years of Age	16 Years of Age
Office.....	114	144	55	196
Factory.....	281	477	326	498
Store.....	200	238	331	368
Housework (home).....	14	15	523	280
Housework (outside).....	..	..	181	69
Messenger.....	232	118	..	..
Call boy.....	..	12	..	..
Errands.....	219	122	5	..
Hopper.....	90	93	..	..
Delivery.....	58	57	..	..
Vendor (selling).....	24	6	..	..
News stand.....	25	2	..	..
Bootblack.....	20	5	..	..
Shoe repairing.....	12	3	..	..
Pin sticker.....	20	10	..	..
Laundry.....	17	16	18	33
Hotel.....	..	10	..	3
Lunchroom.....	22	18	6	25
Waitress.....	..	..	10	9
Bakery.....	28	22	7	..
Dairying.....	12	6	..	..
Janitor's helper.....	17	5	..	..
Porter.....	15	4	..	..
Tailoring.....	13	..	13	18
Dressmaking.....	..	..	2	10
Millinery.....	..	..	7	10
Drafting.....	..	10	..	..
Lithography.....	12	5	..	..

## 46 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

TABLE 11: EMPLOYMENT ENTERED BY YOUNG PERSONS TO WHOM CERTIFICATES WERE ISSUED, BUFFALO, N. Y., 1926-1927—(Continued)

Occupation	Boys		Girls	
	14 and 15 Years of Age	16 Years of Age	14 and 15 Years of Age	16 Years of Age
Printing	24	35	..	..
Sign writing	12	1	..	..
Electro-plating	..	1	..	..
Painting	27	11	..	..
Paperhanging	15	1	..	..
Electrician	19	20	..	..
Bricklaying	12	3	..	..
Construction work	17	28	..	..
Plumbing	16	2	..	..
Masonry	..	1	..	..
Steamfitting	11	..	..	..
Carpentry	24	6	..	..
Sheet metal work	17	6	..	..
Lathing	13	2	..	..
Cabinet-making	11	..	..	..
Woodworking	42	70	..	..
Upholstering	..	1	..	..
Machinist	16	36	..	..
Patternmaking	11	3	..	..
Automobile work	25	30	..	..
Battery work	11	2	..	..
Barber	20	5	..	..
Beauty parlor	..	..	3	6
Farming	10	5	..	..
Landscape gardening	6	3	..	..
Optician	8	3	..	..
Jewelry apprentice	7	1	..	..
Laboratory assistant	9	24	..	..
Public library	3	32	1	2
Bank page	9	14	..	..
Usher	..	2	..	..
Meter reader	..	1	..	..
Laborer	..	5	..	..
Trucking	..	5	..	..
Telephone operator	..	..	..	248
Caddy	7	..	..	..
Dredging	1	..	..	..
Total	1,848	1,757	1,488	1,775

## PRIVATE CONTINUATION SCHOOLS

Provision was made by law in 1921 for the establishment of private part-time schools. The amendment to the continuation school law reads in part as follows: "Courses of study in private or parochial part-time schools or classes which meet the requirements of the statutes and the regulations pre-

scribed thereunder may be approved by the Commissioner of Education, and when thus approved, attendance thereon shall be accepted for that required under this article."<sup>1</sup>

So much interest was shown by employers in the possibilities of the private corporation or apprentice part-time school that an addition was made to the law in 1924, providing that: "Any person, firm or corporation employing minors between the ages of fourteen and eighteen years may, with the approval of the Commissioner of Education, establish and maintain a private part-time school or class, and the attendance of such minors thereon shall be accepted for that required under this article, and in lieu of attendance upon the public part-time schools."<sup>2</sup>

Classes in such schools must have: (1) a course of study approved by the Commissioner of Education; (2) teachers meeting the requirements established by the Regents for public part-time teachers; (3) sessions as frequent and as long as those of public classes in the same district; (4) buildings and rooms meeting public school standards; (5) suitable equipment, as good as that provided by the local Board of Education; (6) inspection by the Commissioner of Education at least once a year; (7) instruction specially organized for the benefit of minors.

The salaries of teachers in such private schools may be paid by the sponsoring firm, by the local Board of Education or by both. The required work under the courses of study practically coincides with that of the public continuation schools. One-half of the time must be devoted to the prescribed general subjects and the other half may be given to elective courses.

Twenty-one private, part-time schools were maintained in New York City in 1927 in connection with corporations. Nine of these—those established by Bloomingdale Bros., Inc., Franklin Simon and Company, Lane Bryant, Inc., R. H. Macy and Company, Inc., Marcus and Smith, the New York Times, the Western Union Telegraph Company, Gimbel Brothers, Inc., and James McCreery and Company—are financed cooperatively by the Board of Education and the firms concerned. The remaining twelve schools are sup-

<sup>1</sup> "Education Law," *op. cit.*, Article 22, Section 601.

<sup>2</sup> *Idem.*

ported independently by the following concerns: B. Altman and Company, The American Telephone and Telegraph Company, the Burroughs Adding Machine Company, Lord and Taylor, the Metropolitan Life Insurance Company, the Mutual Life Insurance Company of New York, the National City Bank of New York, the New York Edison Company, Frederick Loeser and Company, Calculating Company, Saks and Company, and James A. Hearn and Son, Inc.

In up-state New York there were in 1927 five approved continuation schools maintained by corporations. The Onondaga Pottery Company at Syracuse was the first up-state concern to establish such a school; its example was followed by the Bethlehem Steel Company at Lackawanna, the Van Raalte Silk Company at North Tonawanda, the General Electric Company at Schenectady and the Layman-Berkwitz Company at Newburgh.

#### STATE SURVEY OF PUPILS ATTENDING PART-TIME SCHOOLS

An intensive study of the group of boys and girls in attendance upon part-time schools was made during the school year 1927-1928 by the Vocational and Extension Division of the State Department of Education. On the basis of information furnished by 18,000 boys and 15,000 girls it was possible to arrive at certain conclusions which should be of interest to employers as well as to teachers.

Some of these conclusions have been selected for inclusion in this report although they do not agree in every particular with other general tendencies noted in the study.

“(1) Employed boys fourteen, fifteen, sixteen and seventeen years of age do not attend evening school, nor take correspondence courses, nor are they being instructed in plant or store classes.

“(2) Young persons under eighteen years of age who are not in attendance upon full-time schools do not at this particular period in their lives seem to desire further education, either of a cultural nature or of a kind that would further their advancement in trade or business.

“(3) The employers of the majority of male minors attending part-time schools in New York State are in hearty sympathy with the compulsory continuation school program,



since we find that 60.7% of these boys are paid by their employers for the half-day which is spent each week in school.

"(4) While only one boy out of every eight attending part-time school is employed at work involving the use of machinery, it is evident that almost all industries in which boys of part-time school age are employed at machine occupations have a high degree of hazard, since one boy out of every six of part-time school age who work on a machine is injured in some way in the course of employment.

"(5) About one-half of the boys in the State attending part-time school left the full-time school as soon as they had completed the eighth grade. About one-third of the same group has completed seven grades or less. About one-sixth have completed one year of high school. About one-twentieth have completed two years of high school work. Very few have completed three years of high school.

"(6) About one-half of the boys attending part-time school in New York State earn from \$11 to \$15 per week, inclusive. About one-fifth of the boys attending part-time school earn from \$16 to \$20 per week, inclusive. In general, New York City boys are better paid than boys in up-state localities.

"(7) One part-time school boy out of every four is never without employment during the period of required continuation school attendance. One part-time school boy out of every ten works for his parents.

"(8) While many of the sixteen and seventeen-year-old part-time pupils who are in industrial occupations are, or else claim to be, apprentices, very few of them are receiving any special training in subjects supplemental to the trade which they are learning, in classes maintained in the place where they are employed. The part-time schools in the larger cities should provide apprentice training classes for boys employed in the following trades: printing, machinist, plumbing, carpenter, electrical, automobile repair, meat cutting (retail butcher), painting, bricklaying and plastering, since these are vocations which many boys desire to learn.

"(9) While part-time courses in printing, machine shop, carpentry, electrical work and automobile repair are offered in many part-time schools for the benefit of those employed

in these trades, not enough part-time schools give courses in plumbing, meat cutting (retail butcher), painting, brick-laying and plastering.

“(10) About one girl in every six attending part-time school in New York State works at home at household duties. About two girls in every five attending part-time school earn from \$11 to \$15 per week, inclusive. About one girl in every five attending part-time school earns from \$6 to \$10, inclusive. About 8% of all the part-time girls earn \$16 per week or more. New York City girls earn better wages than do up-state part-time school girls.

“(11) While more part-time school girls than boys take some form of instruction other than that given under the compulsory continuation school law, yet four girls out of every five are receiving no other instruction. They do not attend evening school, do not take correspondence courses, nor are they being instructed in plant or store classes.

“(12) About two out of every twenty-five part-time school girls take lessons in music, dancing or elocution.

“(13) Part-time school girls work very irregularly. One part-time school girl in every seven works at home all the time. One part-time school girl in every eight is never without employment after leaving full-time school.

“(14) Contrary to popular opinion, part-time school boys do not in general change jobs frequently. About one-half of the boys attending part-time school continue to hold the first job which they secure after leaving full-time school during the entire period of required continuation school attendance. In general, the further the fourteen to eighteen-year-old employed boy has advanced in full-time school, the greater is his tendency to stick to the first job which he secures. New York City part-time school boys are, on the whole, more likely to stick to their first jobs than are up-state part-time school boys. Buffalo part-time school boys show more of a tendency to change jobs than do the part-time school boys in other cities of the State.”

#### COOPERATIVE PART-TIME SCHOOLS

Another type of part-time school is the cooperative school, where the pupil works half-time to gain practical experience

and spends half-time in school.<sup>1</sup> The plan most generally followed is that of alternate weeks of work and school attendance. Under this system, two students are required to carry on one job.

The cooperative plan has not been introduced into elementary schools, but five high schools in New York City have put it into effect. Practically all of the employment to date in connection with such schooling has been in mercantile and commercial lines. The schools train clerks, typists, draftsmen, and stenographers who work half-time during the latter half of their high school courses.

Industry has not yet availed itself extensively of the opportunity to develop the cooperative school as a source of labor. The school authorities of Rochester have indicated their readiness to proceed with a cooperative program whenever industrial employers are prepared to support the plan, and further training for factory positions could no doubt be arranged with the cooperative high schools of New York City if employers and foremen were soliciting such labor.

Unless a cooperative high school course coordinates with another trade preparatory course, however, it is not likely that the high school students will be well qualified for work in factories. If the graduates of the industrial department of the junior high school or of the two-year unit trade school could be drawn into the cooperative high school for the last two or three years of high school work, such pupils could be well trained by the factory and the school, working together, by the end of the high school course.

#### EVENING VOCATIONAL SCHOOLS

Evening vocational courses in public schools have become very popular in New York State. Nearly every city and village of any size offers training in such courses. Under the Education Law the instruction must be "in the trades and in industrial . . . subjects . . . open to pupils over sixteen years of age, who are regularly and lawfully employed during the day . . ."<sup>2</sup> and instruction must sup-

<sup>1</sup> For the provision of the Education Law governing such half-time systems, see footnote, p. 38 of this volume.

<sup>2</sup> "Education Law," *op. cit.*, Article 22, Section 600.

plement the daily employment of workers. No attempt is made in evening schools to offer trade preparatory training.

Most of the evening industrial work is conducted in junior high schools, technical high schools, and in vocational schools known as unit trade schools. In this way the equipment used for day classes is available also for evening instruction. A great variety of trade extension work is being offered in the evening. Among the more than one hundred courses open to men are those in automobile mechanics, building trades, architectural and mechanical drawing, electrical work, printing, machine-shop practice, sheet metal work, textile manufacturing, oxy-acetylene welding, tool design, patternmaking, foundry practice, cabinet making, furniture design and making, upholstering, engineering, plumbing, carpentry, building-cost estimating, industrial chemistry, house painting, and many others of more or less importance. About thirty occupations are taught exclusively to women in New York City, this being the only center in the state which offers trade training in evening schools to women. Courses in home-making are, however, generally provided in other cities. The total enrolment in evening vocational classes, including industrial and home-making courses, was 49,104 in the school year 1926-1927. In addition, there were 23,589 persons enrolled in evening commercial classes.<sup>1</sup>

Buffalo, Rochester, Syracuse, Utica, Albany, Yonkers, New York City and about forty smaller cities conduct evening vocational schools. Instruction is generally on a short-unit basis, planned to cover a definite subject and concluded at the end of a definite number of lessons. Evening school pupils ordinarily have time and inclination only for those courses which apply directly to their day-time occupations. Many of the teachers are employed at their trades during the day.

In New York City during 1927-1928 there were eleven evening trade schools, together with evening vocational classes in high school and elementary school buildings having suitable equipment. The average weekly registration was approximately 15,000; the average nightly attendance was about one-half that number.

<sup>1</sup> "Annual Report, 1928," *op. cit.*, Vol. I, pp. 166-167.

## CHAPTER IV

### EDUCATION FOR INDUSTRIAL SERVICE IN NEW YORK STATE—(Continued)

#### APPRENTICESHIP TRAINING

**T**RADE training through a system of apprenticeship may be traced back to the European guilds of the Middle Ages. In those days, artisans themselves initiated boys into the trades and achieved results in training which met the needs of the time. The decline of the handicraft trades, however, simultaneously with rapid development of inventive genius, the application of machinery to the productive process, and the minute division and specialization of labor removed much of the former incentive to apprenticeship. Under the new régime a boy could enter a trade without being apprenticed. He could learn to operate one machine and then hire out at good wages. Thus the necessity of binding one's self to an employer for a term of years disappeared and apprenticeship training fell into disuse from which it is but recently emerging in a modified form.

Under existing conditions of production in America, it has been difficult to re-establish the apprenticeship system. For a time, employers took little interest in it, feeling that the expense of training apprentices did not justify the risk of losing them to competitors at the end of the training period. Gradually, however, industries in this country have been forced to meet a growing demand for trained workers by instituting a system of apprentice training within industrial organizations. This demand for trained men in industry is related to the expanding program of vocational education in this country.

There is a limit, however, to the training which the public schools can give. The skill necessary for craftsmen in most trades can be learned more successfully in the factory than in the school. Between sixteen to eighteen years of age, even

the most promising of the industrially-inclined boys are ready to leave school, and perhaps their best chance to become expert mechanics is to continue their education in the factory shops. Since many skilled workers are still needed, and since the public school can not provide practical experience, it becomes evident that apprentice training still has an important place in modern industry.

A system of apprentice education, it seems generally believed, can not be fully effective without cooperative effort on the part of employers, workers and public schools. It is perhaps unjust and unwise social economy to require that a boy trained in a good vocational public school go through the same term of apprentice service that is required of a boy who starts without any knowledge of the trade. Unless concessions are allowed to the boy of advanced mental and physical status, he probably will not look with favor upon apprenticeship. The course of instruction should be flexible, just as a modern school curriculum is or should be flexible, so that each apprentice may be classified properly and be given advanced standing in cases where his school experience warrants it. If the schools are to assume the responsibility of training youth for industry, it would seem that industry should be a real partner in the enterprise, should suggest and support vocational curricula, encourage and accept the products of the schools on the basis of merit, and look upon apprentice work as a post-graduate course in practical experience, to be fitted to the needs of the candidate and to be completed within a short or a long term, depending upon the circumstances in each individual case.

Apprenticeship is now being developed on a high plane in New York State. Three factors contribute to the new development: (1) a recognition on the part of employers that they have been delinquent in the matter of employing and training apprentices; (2) the desire of organized labor to secure and to maintain a higher standard of craftsmanship; and (3) a demonstration of cooperative effort by boards of education, superintendents of schools and the advisory boards for vocational education.

In practice, the local advisory board for vocational education, representing the public, generally assumes the responsi-

bility of initiating a program of apprentice education by appointing an apprenticeship committee or commission consisting of representatives of employers, labor unions and schools. This commission prepares the plan of cooperation and instruction, and special trade committees assist in organizing and maintaining courses for specific trades, in enrolling and examining apprentices and in inspecting classes.

Apprentice training is offered in both day and evening courses. Where day courses are provided, employers release their apprentices for a part of one or more working days each week and require them to attend school. Where evening courses are substituted for day courses, apprentices are required to attend school for two or more evenings each week. Instruction includes both practical and theoretical work. The teachers are skilled workers from the trades who can meet the legal requirements for a license to teach.

Although no exact record of enrolment in apprentice classes is available, there were in 1926-1927, in twelve cities, 4,461 apprentices in evening classes and 654 in day classes.<sup>1</sup> These figures are included in the totals for enrolment in evening industrial and part-time continuation schools.

Under the Apprenticeship Commission in New York City, seventy-seven classes covering the work in nine different trades were conducted in 1927-1928. This work is receiving the support of employers, labor groups and the public school system. The Board of Education supplies the teachers and the space for class meetings, and classes meet for two hours on two evenings of the week. Boys under sixteen years of age are not eligible for these classes. In 1927 there were 5,850 apprentices registered with the Apprenticeship Commission, 2,200 of whom were registered in the apprentice schools.

Among the up-state cities, Albany, Binghamton, Buffalo, Gloversville, Mount Vernon, Newburgh, Niagara Falls, Rochester, Schenectady, Syracuse, Utica and Yonkers have apprenticeship schools on a basis of cooperation among industry, labor and the public school authorities. Not many trades are represented as yet, but the movement is gathering force.

<sup>1</sup> "Annual Report, 1928," *op. cit.*, Vol. I, p. 151.

In addition to the apprentice-educational work being done through the public schools, some companies are maintaining private apprentice schools. Probably the oldest of all such schools in New York is that of R. Hoe and Company, which dates back to 1858. This company accepts certain selected boys between the ages of sixteen and eighteen as apprentices, and trains them as mechanics, machinists, pattern-makers, moulders or electricians. It maintains a free night school which apprentices are required to attend for academic instruction related to their shop experience.

The General Electric Company at Schenectady has a very comprehensive system of apprentice training. The plan has been in operation since 1901. Applicants must be between sixteen and eighteen years of age (moulders' apprentices between eighteen and twenty-one), studious, capable, healthy and with good habits. Six courses offer training for machinists, draftsmen, moulders, pattern-makers, blacksmiths and cabinetmakers. Certificates are issued at the termination of the apprenticeship period. It is reported that during the first eighteen years of the school's existence the General Electric Company expended \$750,000 upon this work and retained in its employ about 65% of the graduate apprentices. Up to April 1, 1924, over 1,300 apprentices had completed the course.

Another interesting apprentice-training development is that of the Onondaga Pottery Company at Syracuse. This firm accepts boys between the ages of fifteen and nineteen and gives them an apprenticeship course of twenty-four weeks, at the end of which time they are expected to be qualified for regular employment as makers of pottery. For boys under seventeen years of age the instruction given in this factory meets the requirements of the continuation school law.

### JUNIOR HIGH SCHOOLS

The junior high school, when organized and conducted according to the most comprehensive and widely approved plan, gives splendid "try-out" or exploratory courses, generally referred to as prevocational work, to boys and girls who prefer industrial to general or commercial training. Op-



portunity for training for industry is thus afforded at the beginning of the seventh grade to three types of prospective industrial workers—to the intelligent child with a definite interest in mechanics and industrial pursuits, desirous of getting into a shop as early as possible; to the average normal child who is too young to select a life-work; and also to the child who does not like academic work and is in danger of becoming a truant or a loafer in school if he is made to remain until he is fifteen or more years of age. To all types of youth the junior high school offers, or should offer, try-out courses in numerous types of shop work in the seventh grade, with opportunity for working in elective lines in the eighth and ninth grades.

Schools of this type are particularly helpful to workers, for the several following reasons:

- (1) They offer limited trade training to children who would otherwise not obtain it because of inability or lack of energy to complete the eighth grade as a prerequisite to registration in a vocational school.
- (2) They enable children to explore various vocational fields and to find work which interests them.
- (3) They encourage early choice of a vocation.
- (4) They tend to keep in school through the ninth grade many children who under the old plan of eight-four division of grade and high school curriculum would not have remained beyond the eighth grade.
- (5) They offer courses adapted to special interests rather than attempting to compel the child to submerge his natural inclinations to an inflexible school program.

As the present study deals primarily with industrial educational opportunities in New York State, consideration of junior high schools is confined to the industrial phases of that work, but this limitation is not intended to minimize the importance of academic, general, cultural or commercial courses offered in such schools. As a matter of fact, the academic and commercial students also profit from the flexibility of the junior high school program and many of them find that the interesting method of presentation of the elected subjects enables them to complete three years of

scheduled work in two years of time and to graduate from senior high school one year earlier than otherwise would have been possible.

Although the junior high school seems to offer definite possibilities for the improvement of the worker's educational opportunities, it has not demonstrated a symmetrical development in New York State as regards this branch of training. In New York City, for instance, there are fifty-four junior high school organizations, but only twenty of them are reported to have industrial departments, some of which are mere manual training courses. Of course, this failure to provide opportunity for more children to gain some knowledge of industrial production may be, in part, due to the expense of equipping shops. It is well known that New York City is deficient in school buildings and equipment, and when a new type of school such as the junior high school is introduced into the system, the tendency too often is to house it temporarily in old buildings which are undesirable and inadequate and often unsuitable from an architectural viewpoint. In the 1928 building program, New York City made provision for five new junior high schools.

In one of the twenty junior high schools offering industrial work it was found that approximately one-third of the pupils choose to enroll in the industrial department. If the same condition prevails in the other nineteen schools, it would appear that approximately 10,000 pupils of seventh, eighth and ninth grade rank are receiving some prevocational work. There were 83,609 pupils enrolled in the junior high schools of New York City in October, 1927. If all the schools had maintained industrial departments, with one-third of the boys and girls choosing that training, it would have resulted in the giving of shop work and other allied training to nearly 28,000 instead of only about 10,000.

While New York City has more junior high schools than all other cities of the state combined, the up-state cities have gone much further in developing industrial training in such schools. Rochester had in 1927 four splendid schools of this type, with many large, light, modern shops, all having the best of equipment. Two of these buildings in Rochester cost \$1,500,000 each and together contain about 600,000 square

feet of floor area. Other up-state cities having good junior high schools offering industrial work are Auburn, Jamestown, Niagara Falls, Schenectady, Syracuse, and Yonkers.

It is recognized that the junior high school can not make craftsmen of pupils ranging from eleven to fourteen years of age. Its function in the school system is to enable the pupil to adapt himself, and to determine whether he will continue training in school for a chosen vocation. If the industrial department of the junior high school can keep in school the boy who would otherwise either drop out or spend his last school years ineffectively, and at the same time can give this pupil a goal to strive for, it will render most useful service.

It is proposed by some educational experts that there should be correlated with each junior high school industrial department another school offering advanced trade training, in order that the ninth grade graduate may step easily into the logical school for mastering his trade. The need for such a school is keenly felt in New York City where the graduate of the junior high school industrial department must lose a year if he wishes to continue his training in a unit trade or vocational school. To avoid losing this year he must transfer to a trade school at the beginning of the ninth grade, and even this plan is not always satisfactory. Probably he could shift successfully into a cooperative high school but not all pupils wish to do this.

It has also been advocated that there be established an industrial high school which would accept these graduates from industrial courses of junior high school into the tenth grade and offer them a three-year course. Some cities are fitting their junior high school industrial graduates to enter the tenth grade of the technical high school, but in so doing they are not meeting the needs of those pupils who desire to become craftsmen in the skilled trades.

#### PREVOCATIONAL SCHOOLS

Some schools other than junior high schools give prevocational training. Although the term "prevocational" as applied to a classification of schools is used somewhat loosely and ambiguously in New York State, it is generally employed

to identify elementary schools which are practicing vocational guidance and teaching industrial arts in the seventh and eighth grades. In some centers where the school system is being maintained under the old eight-four plan, with the seventh and eighth grade pupils retained in the elementary schools instead of being transferred to junior high schools, an effort is made to give some vocational work to pupils who are sufficiently advanced for junior high school activities, even though the facilities of the junior high school are lacking.

This situation is well illustrated by conditions in the city of Buffalo. Although the school authorities in that city favor the junior high school system and have tried to secure its adoption, they had not been able as late as 1927 to secure the necessary financial support from the city. As a partial substitute, therefore, they maintain industrial arts courses in the two upper grades of the elementary school and call such schools prevocational.

There are many such schools in the state doing work which may be regarded as a development of the old manual training work. As the junior high school program grows, however, it is probable that it will gradually take the place of the prevocational school for seventh and eighth grade pupils.

#### INDUSTRIAL COURSES FOR UNGRADED AND RETARDED PUPILS

There is one school in New York State, the Boys' Prevocational School of Rochester, which is giving splendid shop training to pupils in ungraded classes—pupils for the most part of subnormal mentality, who will not study courses offered in the standard curriculum and who are retarded in their classification to an extent that it is practically hopeless to expect them to complete the sixth grade. Boys of this group, ranging in age from thirteen and a half to sixteen years, and in grade from the second to the sixth, are assembled in one building where suitable shop equipment is provided and where the teaching force is qualified to give sympathetic instruction.

The school has a number of shops equipped for instruction in woodworking, special jobbing, printing and shoe repair

work. Shopwork is organized on a productive basis so that each boy may become adept in his one operation. Each boy spends about half of his time in the shop and half in the classroom, but all classroom work is related to shopwork. Such retarded pupils usually can not see the value of classroom work until shop experience shows them the help to be gained from arithmetic, reading, writing, spelling, and like subjects.

In the Syracuse prevocational school, which is conducted especially for seventh and eighth grade pupils, there is one room for so-called "typical boys," all of whom have intelligence quotients below 77 and who range from eleven to sixteen years of age. Various types of industrial arts work are introduced to hold the interest of these boys. Efforts are now being made to bring an ungraded class into the prevocational schools, with a view to making a start along the line of the industrial training given to ungraded classes in Rochester.

As late as 1927 there was no school in New York City where the boy of low mentality, retarded below the seventh grade, could go for industrial training. An experiment is being made with such a school for girls, but the maximum capacity of the department is 200. According to the supervisor of ungraded classes, as quoted in the report of the City Superintendent of Schools for the year 1925-1926, "from 2% to 5% of children of school age are of such mentality as to be entirely unfitted to pursue studies of the traditional curriculum."<sup>1</sup>

The extent of the retardation problem and the possible gain which might come from better adaptation of school courses to the needs of these slow and retarded pupils are evidenced in a study of grade and age data. Table 12 shows a grade distribution of thirteen-year-old pupils and indicates that a considerable number of them, either from lack of mental ability, diligence, or interest, fail to maintain the normal advancement of their group. Retardation and perhaps discouragement are the consequences. The last few years during which such pupils are kept in school by the

<sup>1</sup> Annual Report of the Superintendent of Schools, City of New York, 1925-1926, p. 309.

compulsory attendance laws are obviously not very profitable to them so far as educational progress is concerned.

TABLE 12: GRADE DISTRIBUTION OF PUPILS THIRTEEN YEARS OF AGE IN CITIES OF NEW YORK STATE, SEPTEMBER, 1925

(Source: New York State Department of Education)

Grade	Number of Pupils	Per Cent of Pupils
1.....	26	0.02
2.....	272	0.22
3.....	575	0.47
4.....	2,711	2.20
5.....	7,851	6.38
6.....	16,600	13.48
7.....	28,907	23.48
8.....	34,203	27.78
9.....	22,662	18.41
10.....	5,233	4.25
11.....	492	0.40
12.....	16	0.01
Ungraded.....	3,571	2.90
Total.....	123,119	100.00

The table indicates that probably the typical thirteen-year-old pupil is in the eighth grade. While 27.78% of the group were in this grade, almost as many, or 23.48%, were in the seventh grade, and 18.41% were in the ninth grade. With a total of 69.67% in these three grades, it is seen that about 25% are below the seventh grade or in ungraded groups and may therefore be counted as retarded pupils, while the other 5% are exceptionally advanced. In fact, the thirteen-year-old pupils in the ninth grade may properly be grouped with the rapid progress quota. Thus about 50% of the pupils are exhibiting average or normal ability, 25% are unusually well advanced, and 25% are retarded.

As a rule, the retarded pupils and many of the average pupils leave school almost as soon as possible, either to avoid study or because of a desire to go to work. These pupils are the recruits for unskilled factory labor and many of them never obtain the special training required to become skilled workers.

Probably 20,000 to 50,000 pupils in New York City are failing in the lower grades. They never reach the junior

high school and are rarely reached by vocational or trade schools offering courses suited to their needs. About 8,000 of these pupils have been identified by means of psychological and other tests and are grouped in ungraded classes for special instruction, but not only is the appropriation for the work too small to provide sufficient personnel, but the facilities for adequate instruction are almost entirely lacking.

Industry is just beginning to realize the potential value of these prospective workers when properly trained while they are young enough to learn. It is important, both for these pupils and for their future employers, that adequate training be provided in the schools. Suitable instruction should not be denied them merely because they are failing under the established school curriculum. Such pupils might profitably be kept in school as long as is required by the present attendance law, but the course of study should be adjusted, and equipment should be provided, so that upon arriving at the ages of eleven or twelve they could enter shop classes where they can discover their aptitudes and learn at least one operation which will assure them a chance of employment when they leave school at the age of fifteen or sixteen.

#### COUNTY OR STATE VOCATIONAL SCHOOLS

It is apparent that under the Education Law, as described, some communities of the state must be without vocational education facilities. As a rule, only the cities have unit trade or technical schools. Even the continuation school is not required by law in districts where there are less than 200 minors under seventeen years of age who are not in regular attendance at full-time day school. Thus, children in rural districts and villages are almost wholly deprived of any chance for vocational guidance, prevocational training or vocational education.

To remedy this situation as far as possible, the State Department of Education in 1926 obtained an amendment to the Education Law<sup>1</sup> authorizing the Board of Supervisors of any county to establish a County Vocational Education and Extension Board. Such a board has power to

<sup>1</sup> "Education Law," *op. cit.*, Article 21-A.

## 64 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

make surveys to determine the vocational education and extension needs of the county, to employ teachers and supervisors, to negotiate for state aid and to do anything necessary to promote a county school.

No county vocational or continuation school had been established in New York State as late as 1927. Possibly the counties having large cities with well-developed school systems are well taken care of, but counties which are thickly dotted with villages and small cities may not contain a single center large enough to provide adequate industrial education. Such counties are frequently able to support vocational schools which could serve more pupils than could a village school.

Connecticut has state trade schools established in fourteen towns of the state. New Jersey, through county schools, is making vocational education available to pupils who otherwise would be limited to academic classes. There are five of these county schools, three of which are emphasizing industrial education. Boys fourteen years of age who have completed the fifth grade may enter these schools, although it is desired to enroll boys who have completed the eighth grade. The ordinary trade subjects are taught, and the courses are two to three years in length according to the ability of the pupil. A county continuation school is conducted in connection with the vocational school.

### REHABILITATION OF THE PHYSICALLY HANDICAPPED

An important educational problem in New York State is that of the rehabilitation of physically handicapped persons so that they may enter or re-enter industry, or engage in other gainful occupation. The Education Law places this work under an Advisory Commission composed of the Commissioner of Education, the State Industrial Commissioner, the Commissioner of Health and the President of the State Board of Charities.<sup>1</sup> The purpose of the Commission is designated as the rehabilitation of persons over fourteen years of age needing, and capable of receiving, preparation for remunerative employment, and "to stimulate all private

<sup>1</sup> *Ibid.*, Article 47, Section 1203.



and public efforts designed to relieve, care for, cure or educate physically handicapped children, and to coordinate such efforts with the work and functions of governmental agencies."<sup>1</sup>

The Industrial Commission is required to report to the Department of Education all injuries which may render employees in need of rehabilitation. The Department of Health is directed to arrange with hospitals and clinics for the reporting to the Department of Education of all cases where injury or disease may render persons physically handicapped, and to make physical examinations of all persons applying for rehabilitation, except those reported by the Industrial Commission.<sup>2</sup>

Among the duties of the Department of Education in regard to rehabilitation are the arranging of special training courses in public, private, or commercial schools or factories, and the providing, within the limits of the appropriated funds, for home teaching, transportation, scholarships, tuition, etc.

New York is one of about forty states which have arranged to accept federal aid in support of vocational rehabilitation. State aid is also available under the law to meet one-half of the expenses incurred by any county in rehabilitation work. Since the federal funds can only be used when matched dollar for dollar by state funds, and since the state pays half of the county expenditures, there need not be much demand for local funds. Such items as maintenance and equipment, however, can not be paid from federal funds, and consequently the locality must bear the expense of these items.

In 1926-1927 the expenditures in New York State for rehabilitation were \$176,270.70. Of this amount, \$72,869.51 was paid from federal funds, a like amount from state funds, and \$30,531.68 from local funds.<sup>3</sup> Practically twice as much federal money was available as was called for by the state. Consequently, it is possible for this work to be expanded considerably without exhausting the available federal aid.

<sup>1</sup> *Ibid.*, Section 1203-A.

<sup>2</sup> *Ibid.*, Section 1206.

<sup>3</sup> Federal Board for Vocational Education, Eleventh Annual Report, Washington, D. C., 1927, pp. 62-68.

During the year 1927-1928 there were 509 physically handicapped persons rehabilitated in this state. Sixty-six of this number were women. Of the total number, 295 were injured during the course of employment, 242 were married and 251 had dependents. The average weekly wage of these physically handicapped persons after rehabilitation was \$24.24. To prepare such persons again for useful employment is obviously worth the expense and effort involved.

At the present time, most of the class work in rehabilitation training is done in private schools, because such schools can go further than the public schools in adjusting their programs to suit special groups.

#### TRAINING OF MENTAL DEFECTIVES

It has been found by scientific investigation that many young persons of very low mentality may be trained to perform simple mechanical operations efficiently.<sup>1</sup> The training prepares each of them for one task at which he probably can earn the standard wage even though it can not pave the way for his advancement. During the period of compulsory school attendance, before the worker attempts to enter employment, is perhaps the most suitable time to give such training. Classes for this work might be continued, however, as a cooperative project of school and factory after the individual has obtained employment.

New York State has demonstrated an interest in special school training for mental defectives. In 1923 the Legislature authorized the State Commissioner of Education to apportion state aid to the extent of one-half (not to exceed \$1,000) of the salary of each teacher of a special class for mentally retarded children. There is room for a much greater development of this phase of education. Rochester and Syracuse have made some beginnings toward preparing mental delinquents for industrial work. Other cities have ungraded classes for such children but they have not stressed the repetitive shop operations.

The industrial training of delinquents is likewise of great

<sup>1</sup>Henry C. Link, "Education and Industry," Macmillan Co., New York, 1923, pp. 214-223.

importance, and in this field New York leads the other states. As early as 1922 this state had fifteen industrial schools for delinquents. Pennsylvania at that time had ten, and Massachusetts and Ohio nine each. Reports from eleven of New York's fifteen schools of this type show that 73% of the pupils enrolled were learning some trade or occupation.

#### QUALIFICATIONS OF TEACHERS

New York State has set high standards for teachers of trade courses and general industrial shopwork. The qualified applicant must be either a high school graduate who has taken the two-year industrial teacher-training course offered by the state normal schools at Buffalo and Oswego, or a workman having had five years of approved training of not less than journeyman grade in the trade to be taught, one year of high school work or its equivalent, and the one-year teacher-training course conducted by the Buffalo State Normal School. To attract competent shop men into the one-year course of training, the State offers annually twenty-five scholarships of \$1,000 each. In 1928 there were 230 applicants for these scholarships. Only the teachers who have had the five years of journeyman experience are qualified under the law to teach shopwork in unit trade and technical schools.

Training courses for teachers in evening industrial schools are maintained in Buffalo, Schenectady and New York City. These courses make it convenient for prospective teachers who have had one year of high school training and five years of experience in industry to obtain their teacher-training work at night while still holding their day-time positions.

Naturally, it has been difficult to obtain competent teachers for newly established schools, because men who could qualify as to shop experience often were deficient in other respects, or were earning better incomes as journeymen than they could expect as teachers. Nevertheless, a splendid corps of shop instructors has been developed. During the year 1925-1926, teacher training was given to 1,435 persons who had presented evidence of having had the required shop experience.

## FOREMAN TRAINING

Many employers in New York State have arranged conferences for their foremen in order to correlate the work of departments, to offer instruction, to obtain united action in introducing reforms, or to maintain better contacts between workers and management.

To encourage this type of industrial education, the Vocational Division of the State Department of Education has two men available who devote practically all of their time to the training of leaders for foreman conferences. It has not been the policy of the Department to conduct foreman training courses, except for demonstration purposes, but rather to train the conference leaders, or teachers, who will give the courses or conduct the conferences. The representatives of the Department of Education assigned to this work will, upon the request of a community or industrial establishment, outline a program of foreman training. They also train conference leaders and subsequently help those leaders in the development of the conference programs. The conference method represents an attempt to improve the quality of present foremanship rather than to train new foremen or to make superintendents out of foremen. It does not involve the use of text-books or lectures, but rather relies upon group discussion, stimulated and guided by the conference leaders, to bring out for group solution the problems encountered by each member of the group. During the year 1926-1927, seventy-eight conference groups met in sixteen different communities. A total of 1,112 foremen were included in these group conferences.<sup>1</sup>

<sup>1</sup> "Annual Report, 1928," *op. cit.*, Vol. I, p. 154.

## CHAPTER V

### INDUSTRIAL TRAINING IN NEW YORK AND OTHER STATES COMPARED

**A**LL OF the chief industrial states competing with New York have made legal and administrative provisions for industrial training. Although the types of vocational schools authorized in these various states are practically uniform, developments under the laws differ from state to state.

#### PROVISIONS FOR SCHOOL ATTENDANCE

The compulsory school attendance laws affect the situation quite materially. As shown in Table 13, Connecticut, Illinois, Indiana, Massachusetts, Michigan, New Jersey, New York and Wisconsin make attendance compulsory between the ages of seven and sixteen. Pennsylvania differs from the above states only in the respect that the lower level is raised to eight years; Ohio makes the lower limit six years and the upper limit eighteen years. In Ohio, however, the minimum age to which the law applies may be raised to seven by action of the Board of Education; in New York, the law does not affect children under eight years of age in school districts having populations of less than 4,500.

#### LEGAL EXEMPTIONS

Exemptions from compulsory attendance laws are quite numerous, most of the states permitting pupils fourteen years of age to leave school to accept employment. In Connecticut, Illinois, New Jersey and Wisconsin, the fourteen-year-old pupil may go to work regardless of his scholastic standing. In Massachusetts and Pennsylvania he must have completed the sixth grade, and in Indiana and New York he must have completed the eighth grade.

Wisconsin will excuse the eighth grade graduate regardless of age. Illinois will excuse a pupil if he is a graduate of a private or parochial school, and New York will excuse the sixth grade graduate after he is fifteen years old. Michigan will generally not exempt a pupil from the compulsory attendance laws until he is fifteen years of age. Practically all of the states will excuse from school attendance those children who are physically or mentally incapacitated.

#### CONTINUATION SCHOOL REQUIREMENTS

The compulsory attendance age for continuation school for employed minors extends, in all cases except one, from the fourteenth to at least the sixteenth year. Indiana, Michigan and New York extend the requirement to seventeen, whereas Indiana may, and Illinois, Ohio, and Wisconsin do, make the upper limit eighteen years.

Provisions for exceptions from part-time continuation school attendance are made so liberal in Connecticut that no such schools are maintained. In the other states listed in Table 13, however, there are few legal provisions for exemption except completion of the twelfth grade.

Connecticut, Indiana and Ohio do not provide that continuation schools must be established in certain localities. In the seven other states, including New York, the requirements are that schools must be established in localities having a specified number, which ranges from 20 to 200, of employed minors to whom the attendance laws apply.

Most of the states require four hours weekly attendance upon continuation school, but in a few cases, longer hours are specified. New Jersey places the minimum of attendance at six hours weekly, Pennsylvania makes it eight hours, and Michigan requires eight hours unless the employer gives instruction which may be considered a fair substitute for one-half of this amount of time. Wisconsin has the most stringent law of all the states on this subject, continuation school students being required to attend classes for one-half of each school day until the end of the term in which the child becomes sixteen years of age, and thereafter eight hours a week until eighteen years of age.

TABLE 13: COMPULSORY SCHOOL ATTENDANCE STANDARDS AFFECTING EMPLOYMENT OF MINORS IN  
SELECTED INDUSTRIAL STATES

(Source: U. S. Department of Labor, Children's Bureau)

State	Compulsory Attendance Age—Day School	Exemptions	Compulsory Attendance Age—Continuation School	Exemptions	Localities Where Continuation Schools Must be Established	Minimum Attendance Required	Educational Requirements for Regular Employment Certificates under Age Sixteen
Connecticut . .	7-16	(1) 14 and employed. (2) Physically or mentally incapacitated. (3) Unable to provide books or clothing.	14-16 having employment or leaving certificate.	(1) Excused by school official. (2) Completion of elementary school course.	No provision.	4 hours per week during school year.	Completion of sixth grade in specified subjects. (School officials may release child.)
Illinois . . . . .	7-16	(1) 14 and employed. (2) Completed eighth grade in private or parochial school. (3) Physically or mentally incapacitated. (4) Religious observances. (5) Temporary absence, excused for "cause."	14-18, regularly and lawfully employed (even if at home) where school has been established.	(1) Minors attending private or parochial day school, or receiving equivalent training at home. (2) Completion of four-year high school course or equivalent.	City or school district may establish continuation schools where there are 20 minors not in regular attendance upon all-day schools.	8 hours per week, 36 weeks per year, or 300 hours during consecutive months.	Completion of sixth grade in specified subjects.
Indiana . . . . .	7-16	(1) 14, employed and completed eighth grade. (2) Upon parent's request, temporary absence permitted. (3) Physically or mentally incapacitated.	14-17, or 14-18, if regularly employed, if required by local officials.		No provision.	4-8 hours per week during school term.	Completion of eighth grade.
Massachusetts	7-16	(1) 14, employed and completed sixth grade. (2) Physically or mentally incapacitated. (3) Excused for temporary absence (not exceeding 7 days in 6 months).	14-16, regularly employed on certificate or temporarily unemployed on certificate, or employed on home permit.		Town in which 200 minors are regularly employed during year, for not less than 6 hours per day. (Town may veto this, but forfeits twice amount estimated as necessary for such schools.) Attendance compulsory in voluntarily organized school.	4 hours per week, 20 hours per week, if temporarily unemployed.	Completion of sixth grade.

TABLE 13: COMPULSORY SCHOOL ATTENDANCE STANDARDS AFFECTING EMPLOYMENT OF MINORS IN  
SELECTED INDUSTRIAL STATES—(Continued)

State	Compulsory Attendance Age—Day School	Exemptions	Compulsory Attendance Age—Continuation School	Exemptions	Localities Where Continuation Schools Must be Established	Minimum Attendance Required	Educational Requirements for Regular Employment Certificates under Age Sixteen
Michigan.....	7-16	(1) 15, employed and completed eighth grade. (2) Services necessary for support of parents, if 14 and completed sixth grade. (3) Regularly employed as page or messenger in either branch of legislature. (4) Physically incapacitated. (5) Home too far from school, unless free transportation provided. (6) Religious observance.	Under 17, no longer attending day school.	(1) Completion of tenth grade. (2) Married. (3) Physically or mentally incapacitated. (4) Wages necessary for support of pupil or his family.	School district having a population of 5,000 or more and containing 50 children subject to provision of continuation school act. (Other districts may establish schools—attendance then compulsory.)	8 hours per week, 4 hours of which may be under working conditions, if approved.	Completion of sixth grade.
New Jersey...	7-16	(1) 14 and employed. (2) Physically or mentally incapacitated.	14-16, regularly and lawfully employed on certificate or temporarily unemployed.	(1) 14 and employed. (2) Physically or mentally incapacitated.	School district in which are employed 20 children 14-16, to whom have been granted age and schooling certificates.	6 hours per week, 36 weeks per year; 20 hours per week if temporarily unemployed.	Completion of fifth grade in specified subjects.
New York....	7-16 (8-16, in places other than cities or school districts having population of 4,500 or over, and employing superintendent.)	(1) 14, employed and completed eighth grade. (2) 15, employed and completed sixth grade. (3) Physically or mentally incapacitated.	14-17, not in day school, or regularly and lawfully employed, or temporarily out of employment.	(1) Completion of four-year high school course or equivalent.	City or school district having a population of 5,000 or over, where 200 minors 14-17 are not attending full-time day school. (Any city may establish schools—attendance then compulsory.) Approved private classes may be substituted.	4-8 hours per week; 20 hours per week if temporarily unemployed during entire session. (Longer hours for fewer weeks, with permission.)	Completion of eighth grade if child is under 15 years of age; otherwise completion of sixth grade.



Ohio.....	6-18 (7-18 by action of Board of Education.)	(1) Graduate of high school of first degree. (2) Mentally or physically incapacitated, or otherwise incapable of profiting by instruction.	16-18, employed on age and schooling certificates.	(1) Completion of same or equivalent work as that taken up in available part-time school. (2) Mentally or physically incapacitated. (3) Completion of four-year high school course, or equivalent.	No provision; establishment optional, but attendance compulsory where schools are established. (Approved private classes may be substituted.)	4 hours per week, entire session. 144 hours per year.	Completion of high school.
Pennsylvania.	8-16	(1) 14, employed and completed sixth grade. (2) 14, engaged in farm or private domestic work on permit, or work for parents for limited time. (3) Excused by school board for physical, mental or other "urgent reasons." (4) Home specified distance from school, unless free transportation provided.	14-16, employed with certificates.	(1) Employed on farms or private domestic service; but where exempt from all-day school on permit, in accordance with superintendent's regulations, must attend continuation school, except where emergency permits are issued. (2) Home specified distance from school, unless free transportation provided.	School districts where there are 20 children eligible to attend. (Compulsory ruling of State Board of Education.)	Periods equivalent to 8 hours per week.	Completion of sixth grade in specified subjects.
Wisconsin....	7-16	(1) 14 and employed. (2) Completed eighth grade. (3) Physically or mentally incapacitated. (4) Home two miles from school, unless free transportation provided, unless 9-14 years old and living 2-3 miles from school.	14-18 (including minors indentured as apprentices), not regularly attending other recognized school.	(1) Completion of eighth grade and four-year high school course. (2) Physically or mentally incapacitated. (3) Home specified distance from school, unless free transportation provided.	Every town, city or village of over 5,000 inhabitants (elsewhere optional), if 25 persons qualified to attend file a petition therefor.	One-half of each school day until end of term in which child becomes 16. Eight hours per week until end of term in which child becomes 18. Entire session of public schools or equivalent. Indentured apprentices—4 hours a week.	Completion of eighth grade, or school attendance for at least nine years, exclusive of kindergarten. (Such certificates not required for work in home.)

## EMPLOYMENT CERTIFICATE REQUIREMENTS

The educational requirements which permit children under sixteen years of age to obtain employment certificates vary greatly. Completion of the fifth grade is required in New Jersey, and of the sixth grade in Connecticut, Illinois, Massachusetts, Michigan, New York (for children at least fifteen years old), and Pennsylvania, while the completion of the eighth grade is necessary in Indiana, New York (for children fourteen to fifteen years old), and Wisconsin, and completion of the high school in Ohio.

## TYPES OF VOCATIONAL SCHOOLS MAINTAINED

So far as legislation is concerned, New York and its competing industrial states provide for vocational education to substantially the same extent. All of these states have evening and all-day public schools giving trade training. All except Connecticut have part-time general continuation schools, and all except New York have so-called part-time trade extension schools. However, Connecticut has a law authorizing the establishment of continuation schools, and many localities in New York conduct the work of the part-time trade extension school in connection with evening or general continuation schools.<sup>1</sup>

## POPULATION AND VOCATIONAL SCHOOL ENROLMENT

Table 14 presents statistics of population and vocational school enrolment in eleven selected industrial states. It will be observed that New Jersey, New York and Wisconsin enroll in evening schools about the same proportion of the population over fifteen years of age, and that they lead the other states in this branch of education. When the records for part-time trade extension and general continuation school enrolment are combined, New York and Wisconsin show the highest enrolment in proportion to the population above

<sup>1</sup> The prevailing distinction between part-time trade extension schools and general continuation schools is that the former are conducted especially for apprentices who attend school for a few hours weekly to receive instruction in mathematics, drafting, science or other subjects related to their chosen trades.

## INDUSTRIAL TRAINING IN OTHER STATES 75

fifteen years of age, while California, New Jersey and Pennsylvania follow in rank. All-day vocational schools are serving larger proportions of the population above fifteen years of age in Indiana and New York than in any of the other states considered, but California, Massachusetts and New Jersey are also making these schools important agencies of industrial education.

**TABLE 14: POPULATION AND ENROLMENT IN TRADE AND INDUSTRIAL SCHOOLS IN SELECTED STATES, 1926-1927**

(Source: Federal Board for Vocational Education, Eleventh Annual Report, 1927, and U. S. Bureau of the Census)

Area	Total Population	Population over 15 Years of Age	Schools			
			Evening	Part-Time Trade Extension	Part-Time General Continuation	All Day Vocational
United States.....	105,710,620	71,949,479	136,971	48,476	324,003	54,738
California.....	3,426,861	2,602,160	192	2,473	19,422	4,807
Connecticut.....	1,380,631	964,393	1,448	482	..	2,316
Illinois.....	6,485,280	4,580,689	4,259	3,379	18,785	1,188
Indiana.....	2,930,390	2,077,984	2,181	2,336	2,353	2,214
Massachusetts.....	3,852,356	2,770,099	5,998	10,140	16,105	5,214
Michigan.....	3,668,412	2,566,421	8,481	3,770	12,530	1,403
New Jersey.....	3,155,900	2,200,449	13,436	133	14,561	3,860
New York.....	10,385,227	7,488,403	32,417	..	158,603	15,917
Ohio.....	5,759,394	4,112,215	6,373	3,237	6,227	1,219
Pennsylvania.....	8,720,017	5,909,958	7,534	1,224	48,542	4,365
Wisconsin.....	2,632,067	1,807,005	5,457	11,978	8,019	..

Satisfactory data could not be obtained for comparisons between states of the enrolment in prevocational schools (such as ungraded classes, industrial art classes, and industrial departments in junior high schools) and work in vocational guidance.

### SALARY EXPENDITURES

The expenditures for teachers' salaries in vocational, trade and industrial education in the United States and in most of the industrial states furnish a measure, as well as a comparison, of the extent of the work being done. Table 15 shows the amount of federal, state and local expenditures in the form of salaries for all types of industrial training given in public schools. The total amounts would, of course, be

## 76 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

much increased if local expenditures for buildings and equipment were included. It will be observed from the table that New York expends for teachers' salaries in these schools nearly one-fourth as much as the entire United States, and that about one-fifth of the New York fund comes from the Federal Government. On a per capita basis, however, California expends substantially as much as New York, and Massachusetts expends a great deal more, while neither of these two states receives as large a proportion from the Federal Government as does New York.

TABLE 15: EXPENDITURES FOR VOCATIONAL TRADE AND INDUSTRIAL EDUCATION IN SELECTED STATES, 1926-1927

(Source: Federal Board for Vocational Education, Eleventh Annual Report, 1927)

Area	Total	Federal Funds	State and Local Funds		
			Total	State	Local
United States . . .	\$11,339,063.42	\$2,426,576.77	\$8,912,486.65	\$3,062,756.12	\$5,849,730.53
California . . .	1,024,661.72	103,883.35	920,778.37	103,883.35	816,895.02
Connecticut . . .	214,427.99	41,715.83	172,712.16	172,712.16	..
Illinois . . . . .	657,055.20	196,282.06	460,773.14	132,245.54	328,527.60
Indiana . . . . .	337,151.34	65,802.27	271,349.07	43,451.53	227,897.54
Massachusetts . . . . .	1,530,542.50	162,626.08	1,367,916.42	683,958.21	683,958.21
Michigan . . . . .	393,974.99	99,777.59	294,197.40	49,888.79	244,308.61
New Jersey . . . . .	404,165.04	110,263.51	293,901.53	146,950.77	146,950.76
New York . . . . .	2,689,976.40	478,369.11	2,211,607.29	1,039,535.81	1,172,071.48
Ohio . . . . .	506,030.03	157,737.64	348,292.39	95,482.91	252,809.48
Pennsylvania . . . . .	1,286,187.37	253,203.50	1,032,983.87	346,782.93	686,200.94
Wisconsin . . . . .	445,164.94	55,448.07	389,716.87	..	389,716.87

As regards the relation between state and local expenditures for teachers' salaries in industrial training, the local governments carry the heavy end of the load in a majority of the eleven industrial states listed in the table. In Massachusetts, New Jersey and New York, the state and local expenditures approximately balance each other, while in Connecticut there are no local payments and in Wisconsin no state aid.

The salary expenditures for part-time general continuation school education are shown in Table 16. New York dispenses

INDUSTRIAL TRAINING IN OTHER STATES 77

a much larger fund and makes a larger per capita expenditure for this type of training than does any other state. Local, state and federal funds all contribute to the support of continuation school training in most states. Connecticut does not conduct schools of this type, while Indiana and Wisconsin provide no state funds for them.

**TABLE 16: EXPENDITURES FOR PART-TIME GENERAL CONTINUATION EDUCATION IN SELECTED STATES, 1926-1927**

(Source: Federal Board for Vocational Education, Eleventh Annual Report, 1927)

Area	Total Expenditures	Federal Funds	State and Local Funds		
			Total	State	Local
United States	\$4,875,954.76	\$892,661.91	\$3,983,292.85	\$1,303,974.98	\$2,679,317.87
California...	461,481.60	31,589.62	429,891.98	31,589.62	398,302.36
Connecticut.....	..	..	..	..	..
Illinois.....	388,308.64	129,095.41	259,213.23	65,058.91	194,154.32
Indiana.....	70,193.46	23,398.15	46,795.31	..	46,795.31
Massachusetts.....	424,127.55	38,821.41	385,306.14	192,653.07	192,653.07
Michigan...	189,205.15	46,734.42	142,470.73	23,367.21	119,103.52
New Jersey.....	103,877.79	44,504.68	59,373.11	29,686.55	29,686.56
New York...	1,814,135.37	243,200.75	1,570,934.62	717,433.61	853,501.01
Ohio.....	140,701.81	46,358.82	94,342.99	34,706.66	59,636.33
Pennsylvania.....	672,622.33	98,933.36	573,688.97	157,107.74	416,581.23
Wisconsin...	186,099.38	18,305.19	167,794.19	..	167,794.19

**FEDERAL AID TO INDUSTRIAL TRAINING**

Federal funds to aid vocational education are allotted to the states under the Smith-Hughes Act, the apportionment being made by the Federal Board of Vocational Education on the basis of educational programs adopted by the states. Table 17 presents data on the amount of federal money expended in the United States, and in each of eleven industrial states, for each type of trade and industrial school. It will be noted that New York State in 1926-1927 devoted all of its federal funds to all-day vocational trade schools and to general continuation schools. Under the distribution plan now applied, one-third of the federal funds will be allotted to the support of evening apprentice training classes. The

## 78 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

amount of federal aid received by New York greatly exceeds that received by any other state.

TABLE 17: DISTRIBUTION OF FEDERAL MONEY FOR TRADE AND INDUSTRIAL SCHOOLS, 1926-1927

(Source: Federal Board for Vocational Education, Eleventh Annual Report, 1927)

Area	Total	Part-Time			All Day
		Evening	Trade Extension	General Continuation	
United States.....	\$2,426,576.77	\$257,953.30	\$337,212.85	\$892,661.91	\$938,748.71
California.....	103,883.35	60.00	13,784.15	31,589.62	58,449.58
Connecticut.....	41,715.83	5,214.48	17,381.60	..	19,119.75
Illinois.....	196,282.06	9,294.07	25,271.99	129,095.41	32,620.59
Indiana.....	65,802.27	4,208.79	5,626.28	23,398.15	32,569.05
Massachusetts.....	162,626.08	7,689.47	28,939.46	38,821.41	87,175.74
Michigan.....	99,777.59	11,740.44	17,764.80	46,734.42	23,537.93
New Jersey.....	110,263.51	33,001.37	1,438.45	44,504.68	31,319.01
New York.....	478,369.11	..	..	243,200.75	235,168.36
Ohio.....	157,737.64	13,566.08	54,053.65	46,358.82	43,759.09
Pennsylvania.....	253,203.50	30,503.22	16,813.91	98,933.36	106,953.01
Wisconsin.....	55,448.07	9,694.07	27,448.81	18,305.19	..

## SUMMARY

All factors considered, New York State ranks well in comparison with other states in efforts to extend educational opportunities to workers. The general standards of education, as evidenced by compulsory school attendance laws, compulsory establishment of part-time continuation schools, and registration of employed minors under sixteen years of age, are favorable in New York as compared with those of other industrial states, although there has been no very unusual legislation on this subject. Ohio requires more years of school attendance than does New York and demands a much higher degree of education from the minor who wishes to quit school to accept employment before reaching the age of sixteen.

New York offers substantially the same types of training for workers as are made available in other industrial states. Although the general part-time or continuation school and the all-day unit trade school have registered greater per capita enrolment in New York than in any other state, this

fact may be due to the policy—which was not until recently discarded—of devoting all of the available federal aid for industrial education to these two types of schools.

Under the system of compulsory school attendance which exists in this country, almost the entire labor supply for industry and commerce, other than immigrants of working age, is from our schools. Private schools are an important element in our educational system, but the great mass of the public receives its training, particularly in the earlier years, in the public schools. The labor force in this country is made up largely of persons whose school training has been limited to the elementary and primary grades. In New York State, 96.2% of all persons twelve years old are in school, while only 16% of those eighteen years old are in school.

TABLE 18: SUMMARY OF PUBLIC EDUCATIONAL OPPORTUNITIES FOR TRADE OR INDUSTRIAL TRAINING IN NEW YORK STATE  
(Compiled by National Industrial Conference Board)

School	Courses Offered	Age or Other Entrance Requirements
Elementary schools	General elementary education	
Junior high schools	Vocational guidance, vocational training and general education	Completion of sixth grade
Unit technical schools or technical high schools	Vocational training and general courses in English, history, mathematics, etc.	14 or completion of elementary school course
High schools (traditional)	General courses and manual training courses	Completion of eighth grade
General industrial schools	Vocational training	14 or completion of elementary school course
Continuation schools	Vocational guidance	14 to 17 inclusive
Evening schools	Americanization courses, apprentice courses, industrial and commercial courses	16 and over
Normal schools	Industrial teacher-training courses	High school graduation or one year of high school work and five years' trade experience
Engineering schools and colleges	Advanced technical education	High school graduation

Of the total number of pupils who enter high schools in this country, only about 14% remain to enter the twelfth

## 80 PUBLIC SCHOOLS AND THE WORKER IN N. Y.

grade. Whatever influence our schools are to have upon our industrial workers must, therefore, either be exerted in the elementary grades and in the early years of high school, or in the modern specialized schools which have been created to care for pupils in the upper grammar and high school grades.

In this task of adapting our educational policies and methods to the needs of those hundreds of thousands of youth whose school training for various reasons falls short of the ideal standard contemplated in the law, New York State is showing definite evidences of progress. A satisfactory start has been made toward bringing education into a closer relationship with the actual needs and conditions of our changing economic society, but much remains to be done.

Table 18 indicates the public educational opportunities which are now open to young persons preparing for, or engaged in, industry or trade in New York State.