

PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

VOL. VI, NO. 1

Research Bulletin

OF THE

National Education Association

Creating a Curriculum For Adolescent Youth

PUBLISHED BY THE RESEARCH DIVISION
OF THE NATIONAL EDUCATION ASSOCIATION
1201 SIXTEENTH STREET NORTHWEST, WASHINGTON, D. C.

Entered as second-class matter February 10, 1923, at the postoffice at
Washington, D. C. under Act of August 24, 1912. Acceptance for
mailing at special rate of postage provided for in Section 1103,
Act of October 3, 1917, authorized February 10, 1923

Research Bulletin of the National Education Association

Published five times each year in January, March, May, September, and November by the Research Division of the National Education Association of the United States.

President, CORNELIA S. ADAIR

Secretary, J. W. CRABTREE

The payment of the \$5 membership fee of the National Education Association entitles one to receive the Research Bulletin, the Journal, the Annual Volume of Addresses and Proceedings, and certain other publications of the National Education Association for one year. One dollar of each \$5 membership fee is for a year's subscription to the Research Bulletin. The Research Bulletin may be subscribed for separately at a subscription price of \$1 per year. Single copies may be purchased for 25 cents, and in quantities at a reduced rate. Those entitled to receive the Research Bulletin regularly are asked to report at once any change of address, giving old as well as new address.

Entered as second-class matter February 10, 1923, at the postoffice at Washington, D. C., under Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized February 10, 1923.

Director of Research: John K. Norton.

Assistant Directors of Research: Margaret M. Alltucker; Frank W. Hubbard.
Executive and Editorial Offices - - 1201 Sixteenth Street N. W., Washington, D. C.

How to Secure Additional Copies

Additional copies of this issue of the Research Bulletin may be obtained at the following prices, postpaid if remittance accompanies order:

- Single copies of this issue 25c.
- 2 to 9 copies—10% reduction.
- 10 to 99 copies—25% reduction.
- 100 or more copies—33 1/3% reduction.

Orders for Research Bulletins not accompanied by remittance are subject to transportation charges. Make checks payable to National Education Association.

Subscriptions to Research Bulletins

The Research Bulletin may be received regularly through a special subscription at \$1 per year. Only those holding the \$5 membership (see statement at top of this page) receive the Research Bulletin without such subscription. Many of the early issues of the Research Bulletin are already out of print. The special subscription at \$1 per year offers an opportunity to maintain a complete file of future Research Bulletins.

Reproduction of Material in Research Bulletins

Electro-mat-slide service: The National Education Association maintains a special service to aid those reproducing material appearing in its publications. Send orders or requests for further information to the Division of Publications.

Tables, charts, and any other material appearing in Research Bulletins may be reproduced for the advancement of education. No authority other than this notice is needed previous to such reproduction. For further information on this subject or others affecting the work of the Research Division, address the Division of Research, National Education Association, 1201 Sixteenth Street, N. W., Washington, D. C.

Research Bulletin

OF THE

National Education Association

VOLUME VI

January to November, 1928

The Research Bulletin is issued by the Research Division, a section of the headquarters staff of the National Education Association. This division was created in February, 1922, for the purpose of conducting scientific studies of special interest to members of the teaching profession.

Bulletin One was issued by the Research Division in June, 1922, and *Bulletin Two* in November, 1922. The first number of the *Research Bulletin* is Volume I, No. 1, January, 1923, entitled *Facts on State Educational Needs*. With Volume I, No. 1, the *Research Bulletin* became a regular publication, issued five times each year—January, March, May, September and November. The Research Bulletins composing Volumes I, II, III, IV, V, and VI are listed on the next page.

RESEARCH DIVISION
THE NATIONAL EDUCATION ASSOCIATION
OF THE UNITED STATES

1201 Sixteenth Street Northwest, Washington, D. C.

1928

Research Bulletins Previously Issued

- Facts on the Cost of Public Education and What They Mean.* Bulletin 1, June, 1922. 68 pp. (Out of print.)
- Facts for American Education Week.* Bulletin 2, November, 1922. 40 pp. Price per copy, 25 cents.
- Facts on State Educational Needs.* Vol. I, No. 1, January, 1923. 64 pp. (Out of print.)
- Can the Nation Afford to Educate Its Children?* Vol. I, No. 2, March, 1923. 72 pp. Price per copy, 25 cents.
- Teachers' Salaries and Salary Trends in 1923.* Vol. I, No. 3, May, 1923. 116 pp. Price per single copy, \$1.00.
- Five Questions for American Education Week.* Vol. I, No. 4, September, 1923. 56 pp. (Out of print.)
- Facts on the Public School Curriculum.* Vol. I, No. 5, November, 1923. 48 pp. (Out of print.)
- Current Facts on City School Costs.* Vol. II, Nos. 1 and 2, January and March, 1924. 64 pp. (Out of print.)
- Teachers' Retirement Allowances.* Vol. II, No. 3, May, 1924. 32 pp. Price per copy, 25 cents.
- Facts on the Public School for American Education Week.* Vol. II, No. 4, September, 1924. 40 pp. (Out of print.)
- The Problem of Teacher Tenure.* Vol. II, No. 5, November, 1924. 40 pp. Price per copy, 25 cents.
- Public School Salaries in 1924-1925.* Vol. III, Nos. 1 and 2, January and March, 1925. 72 pp. Price per copy, 50 cents.
- Taking Stock of the Schools.* Vol. III, No. 3, May, 1925. 32 pp. (Out of print.)
- Keeping Pace With the Advancing Curriculum.* Vol. III, Nos. 4 and 5, September and November, 1925. 96 pp. Price per copy, 50 cents.
- The Ability of the States to Support Education.* Vol. IV, Nos. 1 and 2, January and March, 1926. 96 pp. Price per copy, 50 cents.
- Efficient Teaching and Retirement Legislation.* Vol. IV, No. 3, May, 1926. 72 pp. Price per copy, 25 cents.
- A Handbook of Major Educational Issues.* Vol. IV, No. 4, September, 1926. 72 pp. Price per copy, 25 cents.
- Major Issues in School Finance—Part I.* Vol. IV, No. 5, November, 1926. 32 pp. Price per copy, 25 cents.
- Major Issues in School Finance—Part II.* Vol. V, No. 1, January, 1927. 64 pp. Price per copy, 25 cents.
- Salaries in City School Systems, 1926-27.* Vol. V, No. 2, March, 1927. 64 pp. Price per copy, 25 cents.
- The Scheduling of Teachers' Salaries.* Vol. V, No. 3, May, 1927. 64 pp. Price per copy, 25 cents.
- The Advance of the American School System.* Vol. V, No. 4, September, 1927. 32 pp. Price per copy, 25 cents.
- School Records and Reports.* Vol. V, No. 5, November, 1927. 132 pp. Price per copy, 50 cents.
- Creating a Curriculum for Adolescent Youth.* Vol. VI, No. 1, January, 1928. 80 pp. Price per copy, 25 cents.
- The Principal Studies His Job.* Vol. VI, No. 2, March, 1928. 68 pp. Price per copy, 25 cents.
- The Advance of the Teacher Retirement Movement.* Vol. VI, No. 3, May, 1928. 56 pp. Price per copy, 25 cents.
- Practices Affecting Teacher Personnel.* Vol. VI, No. 4, September, 1928. 52 pp. Price per copy, 25 cents.

For
A

Iss
J

Jun

Con

Hel

New

List

CONTENTS

	Page
Foreword	4
A New Venture in Public Education.....	5
New Schools for Adolescents	5
What Are the Functions Peculiar to the Junior High School?	6
How Widely Accepted is the Junior High School Form of Organization?.....	8
Problems Faced in Developing a Curriculum for Adolescent Youth	14
Issues to Be Faced by Local School Boards Preliminary to the Adoption of Junior High School	
Plan of Organization	15
What Does the Junior High School Do That Other School Units Do Not Do?.....	15
What Is the Relative Cost of Elementary, Junior, and Senior High Schools?.....	15
Do Local Teachers Possess the Special Training and Personal Qualifications Necessary for	
Junior High School Teaching?.....	16
Is a Special Certificate Necessary in Order to Teach in Junior High School?.....	17
Are Special Buildings and Equipment Needed in Junior High School?.....	17
How Many Pupils Are Necessary to Carry on a Real Junior High School?.....	17
Junior High School Program of Studies	20
Through What Subjects Are the Purposes of the Junior High School Realized?.....	20
Four Types of Programs of Studies.....	21
Subjects Most Frequently Offered in One Hundred and Thirty-nine Junior High Schools....	21
Tendencies Revealed by an Analysis of One Hundred and Thirty-nine Junior High School Pro-	
grams	24
Relation of Size of Enrolment in the Junior High School to Variety of Subjects Offered	24
What Constants Form the Core Curriculum of the Junior High School?	24
What Subjects Are Elective in the Junior High School?	24
Variables or Electives in the Program of Studies of 139 Junior High Schools.....	25
Seventh Grade	25
Eighth Grade	28
Ninth Grade	28
Contributions of Research to Junior High School Curriculum Building	29
How Far Has Research Gone in Determining the Course of Study of the Junior High School?	
Research and the Philosophy of the Junior High School.....	29
A Partial Summary of Research Findings.....	29
Research and the Curriculum in Social Studies.....	30
Research in Junior High School Science.....	34
Research in Junior High School English.....	36
Research in Junior High School Mathematics.....	40
Research in Modern Foreign Languages.....	42
Research in Junior High School Commercial Education	44
Research in Junior High School Industrial Arts	46
Art in Junior High School	48
Research in Junior High School Music.....	49
Research in Junior High School Home Economics	50
Research and the Curriculum in Health and Physical Education	52
Helpful Books Dealing with Junior High School Problems	54
Expert Opinion as to Best Books on General Problems of the Junior High School	54
Expert Opinion as to Best Books on Junior High School Subjects.....	55
Value of Selected Bibliographies	55
Expert Opinion as to Most Helpful Books on School Counseling and Guidance	66
New Courses for New Schools	68
Availability of Local Courses of Study	68
No Brief for Scissors and Pastepot	68
Legitimate Uses of List of Course of Study Bulletins	68
Junior High School Courses of Study Published Since 1920	69
List of Tables, Charts, and Figures	79

FOREWORD

Within the last decade there has been wide-spread effort to offer a better type of education for early adolescent youth. The junior high school is specially designed to meet the needs of children in this relatively distinct phase of development. It marks a new venture in public education. It is a distinct educational unit with features peculiar to itself. Features, such as prevocational training, exploration, guidance, departmental teaching, and greater activity on the part of pupils justified its creation. They must not be lost through compromises with conventional procedures.

Curriculums should be created to fit the needs of adolescent boys and girls, enabling them to explore their interests and abilities and bringing them into contact with influences that give direction and purpose to their lives. Many theoretical articles have been written; much research and experimentation has been carried on to discover what should be the content of the junior high school curriculum. It is still in the developmental stage, and it is highly desirable that for the present this forward-looking experimental conception of the junior high school be maintained. Any attempt at standardization at this time would be unfortunate.

Several types of re-organization, such as the 6-3-3, 6-6, and 6-4-4, are being tried out. They have not existed for a long enough period of time to yield absolute proof of the superiority of one type of re-organization over another, or of the superiority of any one type over the traditional organization. In their best forms, however, these re-organizations embody the kind of training and educational opportunities which educational leaders believe early adolescent youth should have. Furthermore, examination of current practice shows that many of the purposes for which these school units were organized are being realized.

Committees charged with the responsibility of creating courses of study for adolescent youth will find in this issue of the *RESEARCH BULLETIN* a summary of statements as to the purposes of the junior high school, a discussion of the issues to be faced by local school boards preliminary to the adoption of the junior high school plan of organization, an analysis of one hundred and thirty-nine programs of studies in different sized schools, together with a summary of the trends of research findings. These all show the present state of flux of the junior high school. For those who would gain more than a cursory knowledge of the junior high school curriculum, additional references selected by ninety-eight specialists are listed. These references will be of special interest to senior as well as junior high school teachers and principals who are working for closer articulation between these two school units, both as to administrative policies and courses of studies.

This Bulletin offers a bird's eye view of what has already been accomplished in the junior high school field. It is presented for study and discussion by teaching groups throughout the country. It is a starting point for further study, experimentation and research. If it stimulates thinking to the end that the real functions of schools for adolescent youth may be realized through curriculums suited to modern social needs and created specially for boys and girls, who have completed the first six grades, its purpose will have been fulfilled. The Research Division has made many outstanding contributions. In the field of the curriculum, this is one of its best.

J. W. CRABTREE, *Secretary,*
National Education Association.

A New Venture in Public Education

NEW SCHOOLS for adolescents—The seventh grade is a natural turning point in the child's school life, since at the age of adolescence he is eager to explore and discover those personal interests and limitations which point toward specific types of training and life work. The discipline, mode of instruction, and even the theory of class administration—as well as the traditional activities and studies of the old type school—failed to meet the mental, emotional, and vocational demands of the adolescent. The junior high school is the new school designed to meet these demands.

The junior high school is not a glorified elementary school, neither is it a young high school, or a vocational or trade school. Changing the habitat, erecting a new building and calling it a junior high school, does not make it one. Neither a junior high school merely a regrouping of some of the old elementary and high school grades. The junior high school

is the result of an intelligent survey of the capacities and needs of children in a relatively distinct phase of development and upon a study of the particular activities that meet these needs. A school is a junior high school to the extent to which its courses of study and administration conform to the needs of adolescent youth. Powers¹, after an intensive study of instructional results in a typical city school system, states that reorganization in the external features of the school as concerns junior high-school grades without specific reorganization of the content of courses and of methods will not result in material differences in the outcomes of instruction in academic subjects.

A real junior high school is essentially an exploratory, try-out, and information school. A school designed to meet the needs of adolescent youth—whether a part of the 6-3-3 plan or whether a part of the traditional 8-4 system—in its organization and conduct of

class work, recognizes not merely the general characteristics of adolescence but also differences in capacities, tastes, and purposes of individual students. A real junior high school is distinguished by these characteristics:

1. A separate building in which to house the seventh, eighth, and ninth grades, or at least two of these grades. It should be noted also that many school administrators recommend the six-year junior-senior high-school organization for the smaller school systems.

2. A separate staff of teachers.

3. The recognition of individual differences in capacities, tastes, and purposes in the organization and conduct of class work.

4. A program of studies differing from the course of study to be found in the like numbered grades of the traditional school in America.

5. A partial or complete departmental organization of subject-matter and teaching.

6. The organization of a limited number of curriculums, each containing groups of constant and variable courses.

7. A definite and effective plan of pupil guidance.

8. Certain elective studies to be chosen by pupils under guidance.

9. Promotion by subject.

10. Organization and administration of student activities not in accordance with the needs and interests of elementary, high school, or college students, but in accordance with the needs of early adolescent or junior high school pupils.

According to Glass² the junior high school is a transitional unit in the school system:

The nature of junior high school administration is *gradual transition* from elementary to secondary education. This administrative principle is in full correspondence with the gradual transition of early adolescent children from childhood and of pre-adolescent children to the mid-adolescence of the senior high school.

The junior high school, according to Koos³, must meet not only the test applied to every educational institution, but also the test of achieving its peculiar functions as a distinctive

¹ Powers, J. Orin, *The Junior High School*. Minneapolis, University of Minnesota Press, 1927, p. 110.

² Glass, James M., "The Junior High School," *New Republic*, November 7, 1923, Vol. XXXVI, Part II, Educational Section, pp. 20-21.

³ Koos, Leonard V., *The Junior High School*, Ginn and Company, 1927, p. 119.

institution. In other words, it has to meet the aims of general education and, in addition, the aims peculiar to itself.

What are the functions peculiar to the junior high school? The seven Cardinal Principles¹ set forth the general aims of education. The junior high school must not only meet these aims, but it must also meet the test of achieving its peculiar functions as a distinctive institution.

It is more or less generally agreed by writers such as Koos that the functions peculiar to the junior high school are:

1. Realizing a democratic school system through:

a. Retention of pupils by bridging the gap between elementary and secondary education and holding the interest of pupils.

b. Economy of time through the earlier introduction of particular subjects and administrative devices which advance each pupil to higher levels as rapidly as he should go.

c. Recognition of individual differences and adaptation of work to meet varying abilities and interests—attempt to give each child the kind of education he needs.

d. Exploration and guidance so that the pupil may have a basis for making a selection when the time for specialization comes—which means “try-out” subjects and subject groups, experimental contacts in school shops, and counsel relative to health, education, social, ethical, moral, and vocational problems.

e. Prevocational education through participation in a variety of vocational activities such as will enable pupils to adapt themselves to the requirements of whatever occupation they finally train for. While the junior high school offers general rather than specific vocational education, it tests out aptitudes and looks to different futures for different children.

2. Adaptation of the school to the nature of the adolescent child—his rapid physical growth, his mental development, and quickened social consciousness.

3. Providing conditions for better teaching, particularly specialization on the part of teachers which is made possible through departmentalization of instruction.

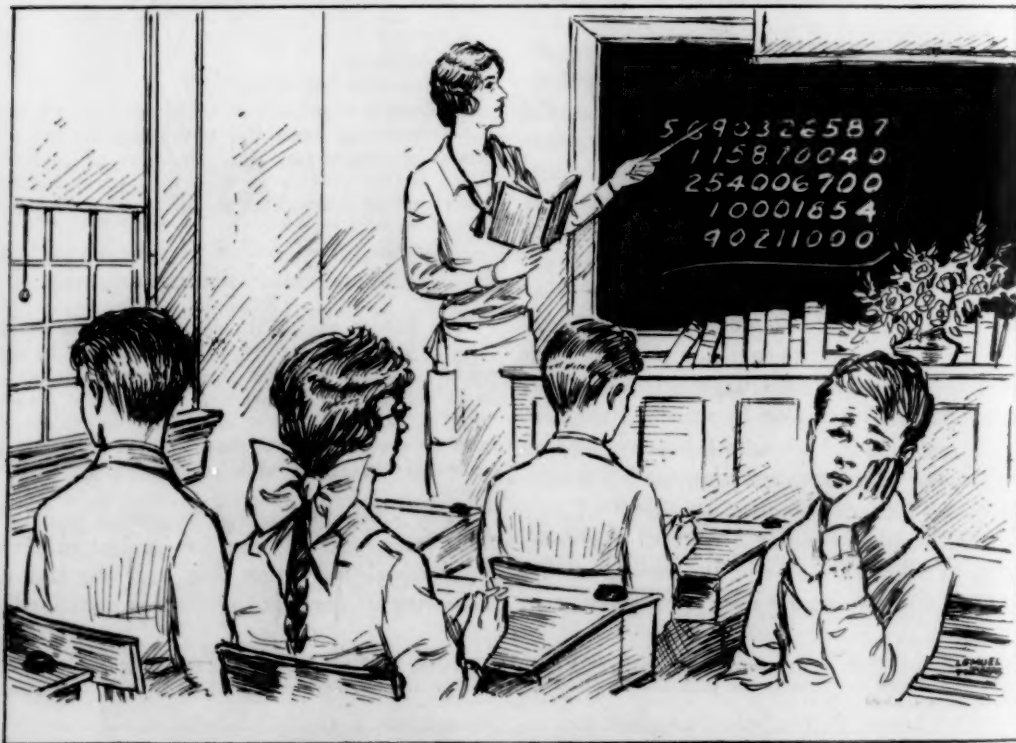
4. Securing better scholarship through better teaching, supervised study, and a more vital interest on the student's part.

5. Improving the disciplinary situation and socializing opportunities by having the pupils under

¹ Report of the Commission on the Reorganization of Secondary Education, *Cardinal Principles of Secondary Education*, U. S. Bureau of Education Bulletin, 1918, No. 35.

FIGURE I

FORMAL DRILL IN ABSTRACT PROBLEMS



the control of more than one teacher during the day, thus encouraging self-direction on the part of pupils. The fact that the junior high school enrolment is a relatively homogeneous social group gives it an advantage in organizing social and recreative activities.

The above statements are in more or less agreement with the following seven most frequently mentioned junior high-school functions contained in an analysis of seventy-nine statements of the special purposes of the junior high school given in the *Fifth Yearbook of the Department of Superintendence*:¹

1. Meeting individual differences of pupils—enabling pupils to follow the lines of their interest and ability.
2. Prevocational training and exploration resulting in wise choice of later school courses and life work.
3. Counseling or guidance—bringing pupils into contact with influences that should give direction and purpose to their lives.

¹ Department of Superintendence, *Fifth Yearbook, The Junior High School Curriculum*, National Education Association, 1201 Sixteenth St., N. W., Washington, D. C., 1927, pp. 20-21.

² While it may be argued that this is a function of every unit of the American school system, and therefore is not peculiar to the junior high school, it was included in this analysis because it was so frequently mentioned as a function which the junior high school, because of its differentiation and flexibility, can perform in a larger way than could the traditional school of eight grades.

4. Meeting the needs of the early adolescent group.

5. Bridging the gap between elementary and secondary schools—proper coordination between lower and higher schools.

6. Development of qualities of good citizenship—preparation of pupils to play a larger part in the life of the community.²

7. Providing opportunity for profitable self-activity—early development of leadership, individuality, and initiative.

"Economy of time," when interpreted to mean enrichment (through the earlier introduction of particular subjects and administrative devices which advance each pupil to higher levels as rapidly as he should go) as well as shortening the period of training, rightly becomes a function peculiar to the junior high school.

Some of these particular objectives, for

FIGURE II

EXPLORATION THROUGH LABORATORY-LIBRARY METHODS



which the junior high-school unit was set up in the 6-3-3 plan of organization in many communities, are being attained in other communities through a reorganization and better coordination of the last two years of a seven- or eight-year elementary school and the first years of the traditional secondary school. However, according to Leonard V. Koos¹, the junior high school is being increasingly accepted as an established unit in our school system. Although most of the material of this Bulletin implies the separate junior high school as a part of the 6-3-3 system, it is not intended to signify that the objectives which have resulted in rapid growth of this unit are unattainable in other forms of administrative organization. Time may prove that the 6-4-4 or some other type of organization is more satisfactory. Trends seem to show, however, that some form of school specially designed to meet the needs of adolescent youth will be one of the permanent units of the American system of education.

How widely accepted is the junior high school form of organization? Since the development of the first junior high schools in Berkeley, California, and Columbus, Ohio, during the school year of 1909-1910 the junior high school movement has rapidly spread within the last sixteen years until to-

day there are approximately 1,100 segregated junior high schools. Seventy-four percent of cities over 100,000 in population, i. e., 49 out of the total 68, have already established separate junior high schools; as have also 109, or sixty-one percent, of the 180 cities with population from 30,000 to 100,000.

Table 1 shows that in 1926 the separately organized junior high schools of the United States had increased their enrolment 1,584 percent over that of 1920.

Table 2, on pages 10-11, shows that 814, or 73 percent of the total 1,108, separately organized junior high schools consist of grades 7, 8 and 9; and 168, or 15 percent, consist of grades 7 and 8. According to the U. S. Bureau of Education, there were 21,700 public high schools in the United States in 1926. Of this number 3,526, or approximately 12 percent, were "reorganized high schools," a term applied to the various types of junior, junior-senior, senior, and five, six, and seven year undivided types which have arisen from a reorganization of the traditional or regular high school of four years, preceded by seven, eight, or nine years of elementary work, and often by a kindergarten. The pupil enrolment in these "reorganized high schools" approximated 41 percent of the total high school enrolment in 1926.²

¹ See: Powers, J. Orin, *The Junior High School. A Study of Instructional Results in a Typical City System*. University of Minnesota Press, 1927, Introduction, p. XI.

² See: Bulletin, 1927, No. 33, *Statistics of Public High Schools, 1925-1926*, U. S. Bureau of Education.

TABLE 1.—GROWTH IN TOTAL ENROLMENT IN ALL PUBLIC HIGH SCHOOLS AND IN JUNIOR HIGH SCHOOLS, 1920-1926

Type of High School	1920 Enrolment ¹	1922		1924			1926			
		Enrolment ²	Per-cent in-crease over 1920	Enrolment ³	Per-cent in-crease over 1922	Per-cent in-crease over 1920	Enrolment ⁴	Per-cent in-crease over 1924	Per-cent in-crease over 1922	Per-cent in-crease over 1920
1	2	3	4	5	6	7	8	9	10	11
All public high schools.	1,999,106	2,496,234	24.87	2,950,408	18.19	47.59	3,741,073	26.80	49.87	87.14
Regular ⁵	1,667,480	1,927,746	15.61	2,064,997	7.12	23.84	2,201,675	6.62	14.21	32.04
Junior*.....	37,331	215,158	476.35	383,417	78.20	927.07	628,809	64.00	192.25	1584.42
Senior*.....	17,791	63,771	258.44	132,878	108.37	646.88	290,354	118.59	355.46	1532.59
Junior-Senior and Undivided.....	276,504	289,559	4.72	369,116	27.47	33.49	620,135	68.00	114.16	124.28

¹ Biennial Survey of Education 1918-1920, Statistics, U. S. Bureau of Education, Bulletin, 1923, No. 29, pages 505-520; ² Biennial Survey of Education 1920-1922, Vol. II, U. S. Bureau of Education, Bulletin, 1924, No. 14, pages 540-552; ³ Statistics of Public High Schools 1923-1924, U. S. Bureau of Education, Bulletin, 1925, No. 40, pages 10-23;

⁴ Statistics of Public High Schools 1925-1926; U. S. Bureau of Education, Bulletin, 1927, No. 33, pages 28-73; ⁵ A regular high school is one not organized on the junior, senior, or junior-senior plan; *Organized as a separate institution.

Chart I shows that during each decade since 1870 the number of pupils enrolled in public high schools has nearly doubled. If the

population of the nation had increased as rapidly between 1870 and 1926 as high school enrolment, we would have had a population

CHART I

NUMBER OF PUPILS ENROLLED IN PUBLIC HIGH SCHOOLS 1870-1926



Research Division, National Education Assn.

Based on data in Table 1, U.S. Bureau of Education, Bulletin, 1927, No 39
Statistics of State School Systems 1925-26, p. 8

CHART II

NUMBER OF PUPILS ENROLLED IN PUBLIC HIGH SCHOOLS TO EACH 1000 POPULATION - 1870-1926



Research Division, National Education Assn.

Based on data in Table 1, U.S. Bureau of Education Bulletin, 1927, No 39
Statistics of State School Systems 1925-26, p. 8

TABLE 2.—DISTRIBUTION OF "RE-ORGANIZED HIGH SCHOOLS"* BY TYPE OF ORGANIZATION BY GRADES, AND BY STATES—1926

State	Number of Schools by Organization by Years																
	Segregated Junior High Schools						Junior-Senior High Schools						Undivided			Segregated Senior	
	Total number segre- gated junior high schools	Grades 6, 7, 8	Grades 7, 8, 9	Grades 8, 9, 10	Grades 7, 8	Grades 8, 9	Grades 7, 8, 9, 10	Total number junior- senior high schools	Grades 7, 8-9, 10, 11, 12	Grades 7, 8-9-10, 11, 12	Grades 6, 7, 8-9, 10, 11	Grades 7, 8, 9-10, 11, 12	Total undivided	6-year	5-year	3-year	4-year
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
United States.....	1108	22	814	11	167	16	78	1429	612	738	25	54	574	470	104	287	128
Alabama.....	25	0	13	0	1	1	10	121	6	111	0	4	18	14	4	3	0
Arizona.....	3	0	2	0	1	0	0	4	4	0	0	0	4	3	1	1	1
Arkansas.....	9	0	4	1	0	0	4	33	9	22	0	2	4	7	2	2	0
California.....	78	0	77	0	1	0	0	29	3	26	0	0	7	5	2	22	0
Colorado.....	16	0	14	0	2	0	0	44	20	24	0	0	11	9	2	6	1
Connecticut.....	14	0	14	0	0	0	0	10	2	8	0	0	0	0	0	3	1
Delaware.....	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0
District of Columbia.....	8	0	8	0	0	0	0	4	0	0	0	0	0	0	0	0	0
Florida.....	31	0	24	1	0	0	6	24	6	17	0	1	2	2	0	3	0
Georgia.....	16	1	8	5	0	0	2	10	0	1	5	4	2	0	0	6	0
Idaho.....	3	0	2	0	1	0	0	8	6	2	0	0	2	1	1	1	1
Illinois.....	24	0	14	0	10	0	0	15	11	4	0	0	2	1	1	1	15
Indiana.....	36	0	20	1	13	1	1	71	39	30	0	0	151	148	3	6	7
Iowa.....	25	0	20	0	3	1	1	116	84	32	0	2	18	4	10	10	11
Kansas.....	56	0	35	0	20	0	1	138	15	23	0	0	4	2	2	20	22
Kentucky.....	8	0	4	0	3	0	1	20	13	7	0	0	11	7	4	3	3
Grand total reorgan- ized high schools	19																
	3526																

of 1,767,130,142 in that year. More pupils were enrolled in high schools in each of the following states in 1926 than in the whole nation in 1870: California, Illinois, Indiana, Kansas, Massachusetts, Michigan Minnesota, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Texas, and Wisconsin.

Table 3, and Chart II, on page 9, show that for the United States as a whole in 1926 there were 32 pupils in public high schools to each 1,000 population. This number varied from 57 in Kansas to 13 in Georgia. While this variation between states is greater, perhaps, than it should be, the nation as a whole

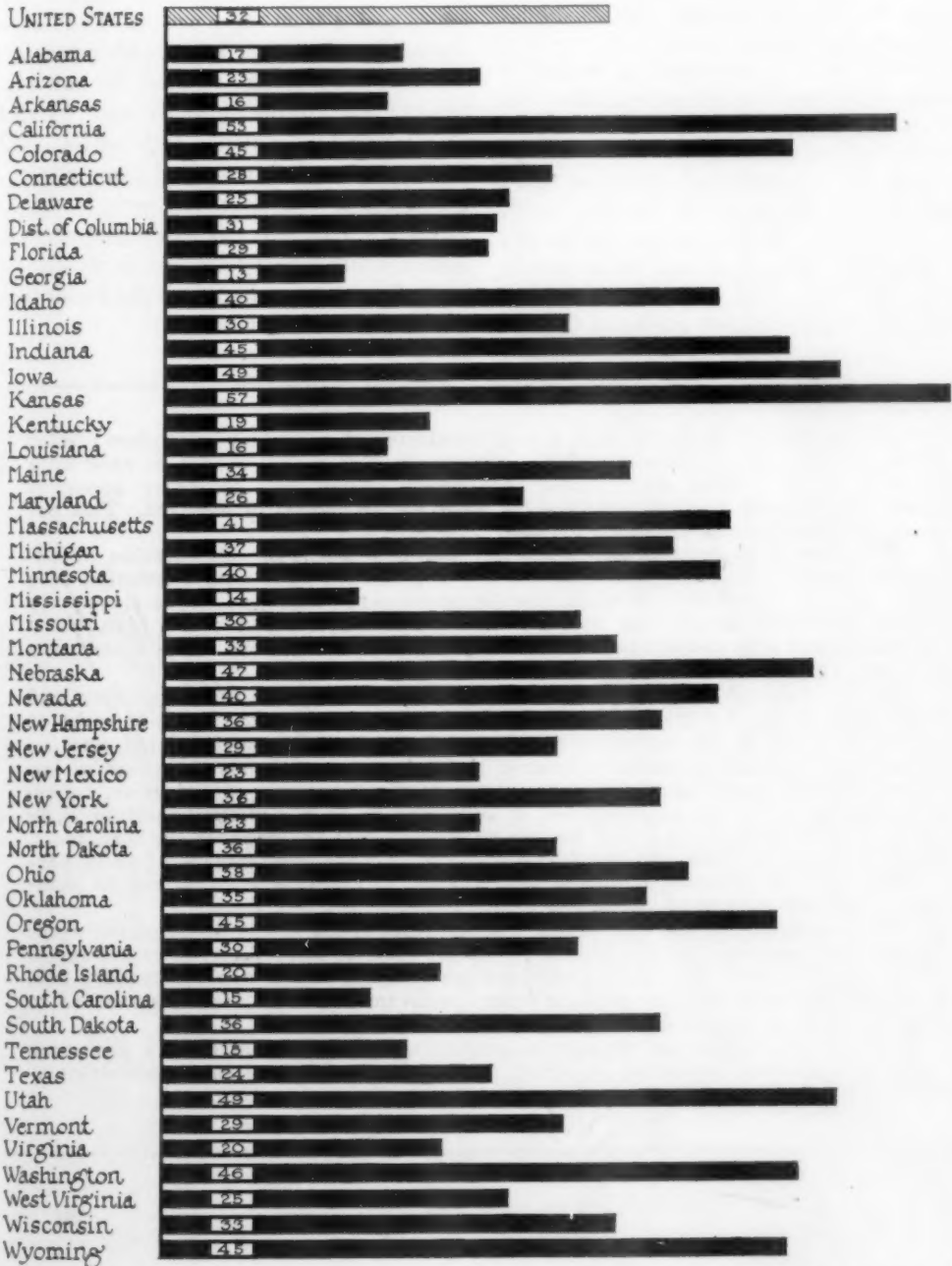
TABLE 3.—JUNIOR HIGH SCHOOL AND ALL PUBLIC HIGH SCHOOL ENROLLMENT IN 1925-1926, BY STATES

States	Total enrolment in segregated junior high schools ¹	Enrollment in all public high schools (regular, junior and senior) ²	Total population in 1926 ³	Number of students in high school to each 1000 population	Rank
1	2	3	4	5	6
Continental United States.....	628,809 ⁴	3,741,073 ⁴	117,135,645	31.94	
Alabama.....	2,597	41,890	2,526,000	16.58	44
Arizona.....	661	10,037	445,000	22.55	39
Arkansas.....	2,896	29,952	1,903,000	15.74	45
California.....	60,563	228,866	4,316,000	53.03	2
Colorado.....	11,547	47,768	1,059,000	45.11	9
Connecticut.....	7,347	45,738	1,606,000	28.48	32
Delaware.....	0	6,038	240,000	25.16	35
District of Columbia.....	5,397	16,593	528,000	31.43	25
Florida.....	10,859	38,430	1,317,000	29.18	30
Georgia.....	9,464	42,300	3,139,000	13.48	49
Idaho.....	1,446	20,647	522,000	39.55	14
Illinois.....	12,001	214,341	7,203,000	29.76	27
Indiana.....	16,985	139,460	3,124,000	44.64	10
Iowa.....	12,032	118,879	2,423,000	49.06	3
Kansas.....	22,824	103,187	1,821,000	56.66	1
Kentucky.....	2,932	49,079	2,524,000	19.44	42
Louisiana.....	1,400	29,777	1,919,000	15.52	46
Maine.....	2,398	26,974	790,000	34.14	22
Maryland.....	12,812	41,781	1,580,000	26.44	33
Massachusetts.....	55,736	170,426	4,197,000	40.61	11
Michigan.....	37,084	163,407	4,396,000	37.17	16
Minnesota.....	18,342	106,831	2,651,000	40.30	12
Mississippi.....	1,252	25,147	1,790,618	14.04	48
Missouri.....	12,081	105,515	3,498,000	30.16	26
Montana.....	1,497	22,620	695,000	32.55	24
Nebraska.....	6,021	65,694	1,385,000	47.43	5
Nevada.....	653	3,096	77,407	40.00	13
New Hampshire.....	2,909	16,203	454,000	35.69	19
New Jersey.....	19,423	105,963	3,680,000	28.79	31
New Mexico.....	963	8,845	388,000	22.80	38
New York.....	84,631	407,851	11,304,000	36.08	17
North Carolina.....	1,798	66,303	2,858,000	23.20	37
North Dakota.....	949	23,075	641,192	35.99	18
Ohio.....	46,629	250,240	6,600,000	37.91	15
Oklahoma.....	6,865	80,930	2,342,000	34.56	21
Oregon.....	3,305	39,733	877,000	45.31	8
Pennsylvania.....	62,072	285,261	9,614,000	29.67	28
Rhode Island.....	1,349	14,051	693,000	20.28	40
South Carolina.....	0	27,828	1,826,000	15.24	47
South Dakota.....	1,620	24,502	689,000	35.56	20
Tennessee.....	4,566	45,005	2,468,000	18.23	43
Texas.....	19,725	124,843	5,313,000	23.50	36
Utah.....	6,707	25,165	514,000	48.96	4
Vermont.....	1,029	10,299	352,428	29.22	29
Virginia.....	7,911	50,402	2,519,000	20.01	41
Washington.....	6,259	71,111	1,538,000	46.24	6
West Virginia.....	8,683	42,074	1,669,000	25.21	34
Wisconsin.....	11,980	96,213	2,885,000	33.35	23
Wyoming.....	609	10,703	235,000	45.35	7

¹ Based on data in Tables 26, 29, 30, 32, and 33 of U. S. Bureau of Education, Bulletin, 1927, No. 33. This total enrolment includes pupils in three-year junior high schools (organized on the basis of grades 6, 7, 8 and grades 7, 8, 9 and grades 8, 9, 10); those in two-year junior high schools (grades 7 and 8, and 8 and 9); and also those in the few four-year junior high schools (grades 7, 8, 9, and 10); ² Based on data in Table 14, U. S. Bureau of Education, Bulletin, 1927, No. 33, pp. 28-29; ³ Data from U. S. Census Bureau; ⁴ Based on replies from 17,710 of the 21,700 high schools in the United States.

CHART III

NUMBER OF PUPILS IN PUBLIC HIGH SCHOOLS TO EACH 1000 IN TOTAL POPULATION



Research Division, National Education Assn.

Based on data in Table 1, U.S. Bureau of Education, Bulletin, 1927 No 39, *Statistics of State School Systems 1925-26*, p. 8.

is making real progress toward providing its children a sufficient number of years of schooling to prepare them for successful living. In 1890 only 3 pupils were enrolled in public high schools to each 1,000 population as compared with 32 in 1926. (See Chart II on page 9.) What activities should the schools provide for these increasing hosts of junior and senior high school pupils?

Problems faced in developing a curriculum for adolescent youth—It is generally agreed by those who have made an intensive study of the junior high-school program that a thorough reorganization of traditional courses of study is essential to the success of the junior high school movement. In some school systems this has been done well; in others, rather poorly and incompletely. Too often the content of the old seventh and eighth grades of the ele-

mentary school has been carried over and some of the ninth-grade subjects of the four-year high school have been pushed down into the junior high school.

Courses of study should meet new demands and should be adapted to the characteristic work which differentiates the junior high school period from other periods of education. Varied curriculums or a core curriculum with variables are necessary to meet the individual needs of pupils of the adolescent age. Methods of teaching in the junior high school should tend to make pupils more and more independent of the teacher than they were in the elementary grades. All this means that there are certain issues which local boards should face preliminary to the adoption of the junior high-school plan of organization.

THE COMPREHENSIVE high school democratized secondary education. With its coming the traditional college preparatory high school ceased to exist as a separate entity. When differentiated curriculums entered into secondary education there arose a need, formerly unknown, to guide pupils' choices of electives. This became the mission of the junior high school. . . .

New functions demand new materials and new methods. Exploration of aptitudes, revelation of opportunities, the starting of each child with conviction of a right start are possible only when courses, as formerly organized in the elementary school and high school, are reconstructed. The experienced junior-high-school teacher knows why general courses of study which articulate the allied elementary and secondary courses have been created. . . .

Early adolescent psychology is an illuminating study of the awakening and irresistible desire for wider contacts and for new experiences. There is revealed the whole range of the expansion of life physically, mentally, socially, and morally. The teacher-student of early adolescent psychology comprehends the youthful impulse to look forward, to glimpse the worlds of vocations and of education, to explore aptitudes for the opportunities of both, and to seek a proper place in each. Then does the junior-high-school teacher understand that the work of the homeroom, the classroom, the club, and the whole organized school environment of early adolescence must be directed to clarify these visions, to reveal new goals, and to motivate intelligent pursuit of vision and aims. . . .

There must come the conviction that the pupil is the active participating agent in the classroom and . . . the teacher is the passive, non-talking, directing agent. These pioneer junior-high-school teachers are bringing to the whole secondary field a far-reaching shift in point of view from improvement of the teacher's method to improvement of the pupil's learning process.

The junior-high-school teacher is converting the classroom from a recitation room to a laboratory.—James M. Glass, *Journal of the National Education Association*, May, 1928, p. 146.

Issues to Be Faced by Local School Boards Preliminary to the Adoption of Junior High School Plan of Organization

1. *What does the junior high school do that other school units do not do?* This question should be carefully considered by local boards of education, school officers, and patrons before the adoption of a junior high-school plan of organization. It is essential that there be a common understanding that the establishment of a junior high school does not mean merely a regrouping of grades to relieve crowded conditions in the elementary school, or that it is a fad and hence the popular thing to do at the moment. As has been pointed out in the preceding section, the junior high school is a distinct educational unit with functions peculiar to itself. Among the most common reasons given by school administrators for favoring the junior high-school type of organization are the following:

a. The seventh and eighth grades of the traditional school system are too thin in content. To make these grades richer in content costs more for equipment, library, laboratory apparatus, etc., than is justifiable in the large number of elementary schools found in the ordinary community. It is more economical to bring all the seventh and eighth grade pupils in a particular section of the city to one central, specially equipped building.

b. There are enough common characteristics of children in seventh, eighth, and ninth grades to warrant grouping them in one organization. The junior high school is the outgrowth of attempts to organize a unit of the school which is specially adapted to the needs of adolescent pupils.

c. The individual differences in children of these grades warrant grouping them in accordance with their abilities; but unless there are larger numbers than is the case in many separate elementary schools, the groups would be too small to warrant providing separate teachers for the different groups. The junior high school frequently offers better opportunity to adjust the classification and work to varied degrees and types of ability.

d. The junior high school looks to different futures for different children, offering exploratory courses and prevocational work, testing their aptitudes, and advising them as to various kinds of service, industrial, professional, etc.

e. Through its laboratory-library methods and its student organizations, the junior high school offers greater opportunity for profitable self-activity.

2. *What is the relative cost of elementary, junior, and senior high schools?* It is a valid principle of school administration that the cost of every educational proposal should be estimated previous to its adoption. This principle should be observed in considering a change from the old 8-4 or 7-4 to the junior high-school type of organization. Since the junior high school involves the special training of capable people as teachers and calls for some equipment not ordinarily found in the traditional elementary school, it is to be expected that it will be somewhat more expensive.

Data presented in the *Fifth Yearbook* of the Department of Superintendence¹ show that the yearly cost per pupil in junior high schools in cities over 100,000 in population is 39 percent greater than in elementary schools; and in senior high schools, it is 78 percent more. In cities 30,000 to 100,000 the corresponding percents are 44 and 89. These data show that the adoption of the 6-3-3 organization means an increase in the cost per pupil in seventh and eighth grades, but a decrease in the cost in the ninth grade. In comparing elementary and junior high-school costs, it should be remembered that the seventh and eighth grades under the traditional 8-4 plan usually cost something more per pupil than the lower grades. In some cities junior high-school costs are diluted, because these cities have not developed bona-fide junior high schools. They are this merely in name, but not in opportunities offered. Hence their costs are often comparatively low.

¹ *The Junior High School Curriculum*, Fifth Yearbook, Department of Superintendence, National Education Association, Washington, D. C., 1927, Chapter VI.

Table 4 shows that the salaries paid junior high-school teachers and principals fall between those paid in elementary schools and senior high schools. In some cases junior high-school teachers are on the same schedule as elementary teachers, but their salaries average higher since they average longer in experience. In other cases, the junior high-school teachers are on a separate schedule somewhere between that of the elementary and senior high-school teachers. In still other cities, the junior high-school teachers are on the senior high-school schedule. The tendency appears to be in the latter direction; i. e., junior high-school teachers are put on the senior high schedule as rapidly as they can qualify in terms of preparation.

In predicting the cost of junior high schools, the possible increase in school enrolment should also be considered. If the junior high school has greater holding power than the seventh and eighth grades of the traditional elementary school, then additional total costs, as opposed to per pupil costs, must be met.

A weighing of all these factors justifies the conclusion that the adoption of the junior high school will probably increase, rather than decrease, school expenditures in the seventh and eighth grades, both as to per pupil costs and total costs. The establishment of junior high schools must be based upon a belief that whereas they cost more they are worth more.

3. *Do local teachers possess the special training and personal qualifications necessary for junior high-school teaching?* Whether or not the establishment of junior high schools

in any community should be delayed until this question can be answered affirmatively is an issue that should be faced squarely. If the junior high-school teacher is to succeed, he must have a clear understanding of the objectives of the junior high school, its underlying principles and its methods. He must also be a specialist in the subjects which he expects to teach, since departmentalization is a feature of the junior high school. More important still he should be endowed with a personality that peculiarly fits him to associate with and inspire adolescents. The teacher in the junior high school is a guide, adviser, and counselor, as well as a disseminator of knowledge.

A study as to the source and preparation of junior high school teachers in cities over 30,000 in population (where junior high schools have been established five or more years)¹ shows that in 83 of these 87 cities, when junior high schools were introduced, the majority of teachers were taken from the seventh and eighth grades of the elementary schools. Forty-five of these cities report that they have discontinued this practice. Sixty-five of the 87 cities offered their local teachers special opportunities to prepare for junior high-school work when junior high schools were opened. Extension courses, summer school courses, and lecture series were the most common opportunities offered. Fifty-four out of the 87 cities studied now require that their junior high-school teachers shall have training equal to that of senior high-school teachers.

¹ See Chapter V, *The Junior High School Curriculum*, Fifth Yearbook, Department of Superintendence, National Education Association, Washington, D. C., 1927.

TABLE 4.—MEDIAN SALARIES PAID TEACHERS AND PRINCIPALS IN CITIES, 1926-1927¹

Cities	Teachers			Principals		
	Elementary	Junior High School	Senior High School	Supervising Elementary	Junior High School	Senior High School
1	2	3	4	5	6	7
59 cities over 100,000 in population..	\$2,008	\$2,213	\$2,583	\$3,437	\$3,946	\$4,813
147 cities 30,000 to 100,000 in population.....	1,565	1,804	2,060	2,536	3,229	4,138
298 cities 10,000 to 30,000 in population.....	1,381	1,575	1,806	2,250	2,609	3,424
374 cities 5,000 to 10,000 in population.....	1,281	1,440	1,671	2,229	2,068	2,821
557 cities 2,500 to 5,000 in population.....	1,176	1,346	1,550	2,319	1,779	2,333

¹ Based on data in Research Bulletin, Vol. V, No. 2, March, 1927, *Salaries in City School Systems 1926-1927*, National Education Association. Those desiring more extensive data relative to teachers' salaries should consult this Bulletin, also Research Bulletin, Vol. V, No. 3, May, 1927, *The Scheduling of Teachers' Salaries*.

4. *Is a special certificate necessary in order to teach in junior high school?* According to the U. S. Bureau of Education:¹

Special certificates for teaching in junior high schools, usually designated as junior high-school certificates or intermediate certificates . . . are becoming increasingly recognized or demanded. . . . Junior high-school certificates, or certificates good in grades 7 to 9, are issued in California and Connecticut. Illinois issues a certificate good in high school and seventh and eighth grades; Indiana, a certificate good in "high school and the seventh and eighth grades to teach the subjects indicated;" also a junior high-school certificate good in seventh and eighth grades. Louisiana issues both junior and senior high-school certificates; Maine, a certificate to teach in approved junior high schools; Maryland, a certificate for junior high schools and high schools of second and third grades; Nevada, a certificate for junior high-school grades which requires special training for teaching in the grades assigned; New Hampshire issues a certificate good in grades 7 to 12 and one for grades 7 to 11; New Mexico issues a junior high-school certificate good in junior high schools and one-, two-, and three-year high schools; Tennessee, a certificate valid in two-year high schools; Utah issues a certificate for grammar and junior high-school grades; and West Virginia, a certificate good in junior and senior high schools.

5. *Are special buildings and equipment needed in the junior high school?* A real junior high school is distinguished by its laboratory-library methods, exploratory courses, and club activities. This implies a library, laboratories, shops, gymnasium, special rooms with special apparatus, such as typewriters, industrial arts and home economics equipment, etc., and an auditorium, as an aid in the realization of the accepted aims of junior high-school education. A careful study of the student population to be served and a survey of the local needs of the city where a junior high school is to be built are the chief bases for determining building needs, courses of study, and equipment. Hence the school buildings and equipment in each city will vary widely. On page 18 is an example of a junior high school building which Oakland, California, has developed as a standard building, housing 1200 junior high-school pupils.

This particular type of junior high-school

building is not recommended over other well-developed buildings. It is reproduced here merely to indicate that the fully developed junior high school involves the construction of buildings and the installing of equipment of a type not generally found in the traditional elementary school.

6. *How many pupils are necessary to carry on a real junior high school?* Each local community should ask itself this question, Have we a sufficient number of adolescent pupils to justify the reorganization of our school system to include a separate junior high-school unit? What this minimum number of pupils should be has not yet been scientifically determined. Homogeneous grouping, however, requires that there be a sufficient number of pupils taking a particular subject to permit grouping into more than one section. If departmental teaching is to characterize the junior high school, there must be teachers, specially trained, who teach particular subjects. This presupposes several teachers for each school—which in turn, usually demands a certain enrolment because of the cost involved. The organization and administration of student activities in accordance with the needs and interests of adolescent pupils demands numbers. An important issue is also dealt with in the section on *The Junior High-School Program of Studies*². It shows that there is a direct relation between the size of enrolment and number of subjects offered—the smaller the enrolment, the fewer the subjects offered. If numbers are so small as to preclude homogeneous grouping, departmental teaching, elective subjects, and organization of adequate student activities—there is a question as to whether a new school unit should be organized.

Spaulding³, however, after making an intensive study of junior high schools in Massachusetts, enrolling approximately 160 pupils or fewer (i. e., five or six class-groups) feels that the number of small junior high schools will increase. The reasons which he gives are these: (1) The spread of the junior-senior high-school organization in cities is producing a corresponding growth in the

¹ U. S. Bureau of Education, Bulletin, 1927, No. 19, *State Laws and Regulations Governing Teachers' Certificates*, p. 23.

² See page 24.

³ Francis T. Spaulding, *The Small Junior High School—A Study of its Possibilities and Limitations*, Cambridge, Harvard University Press, 1927, p. 9.

number of junior high schools in the smaller adjoining communities which depend upon these cities for tuition of pupils beyond the ninth grade; (2) Building conditions, in some instances, are a deciding factor; (3) There is a desire to increase the retention of pupils; (4) Many believe in the educational advantages of the junior high school; and (5)

Community sentiment favoring an approach to the practice of larger systems is also a contributing factor.

All these arguments should be carefully evaluated and weighed against the evidence as to whether the number of pupils in a particular community is sufficient to permit the organization of a new school unit that has

CHART IV
TYPICAL JUNIOR HIGH SCHOOL BUILDING FOR THE OAKLAND PUBLIC SCHOOLS¹—CAPACITY 1200

Activities and Rooms	Area (Sq. Ft.)	Per Cent of Total Area	Auxiliary Rooms	Standard Classroom Units	Available Classrooms
Regular Classrooms: 22 x 30 Approx.....	10,560	13.85		16	16
Library Suite:					
Library 22 x 50 or 30 x 50.....				1½	1
Workroom for Lib. 8 x 10.....	4,172	5.47		1	
Textbook room 22 x 24.....			2	2	
Study Hall 22 x 56.....					2
Science Suite:					
General Science Lab. 22 x 40.....	1,760	2.31		3	2
Note: Small storeroom out of above space.					
Home Economics Suite:					
Cooking Lab. 22 x 38.....				3	2
Model Dining Room 14 x 18.....			1		
Domestic Sci. Lunch Rooms:			1		
Teachers' Lunch Room.....	7,004	9.18	1	4	
Students' Lunch Room.....			1	1	
Kitchen 22 x 36.....					
Counter 10 x 40.....				3	2
Sewing and Millinery 22 x 38.....					
Art Suite:					
Freehand Draw. 22 x 38.....				3	2
Mech. Draw. 22 x 38.....	3,762	4.94		3	2
Work room.....			1		
Music Suite:					
Choral and Orchestra 22 x 35.....				1½	1
Classroom 22 x 30.....				1	1
Piano room (Stage dressing rooms to be used for individual piano lessons).	1,430	1.88			
Instrument storage under stage.....					
Assembly Hall:					
Capacity 900—with stage balcony, motion picture booth and 4 small dress-rooms arranged for piano practice rooms.	10,360	13.57			
Physical Education Suite:					
Boys' Gymnasium.....	7,560	9.91		11½	1
Girls' Gymnasium.....					1
Shower, locker and dressing rooms.....					
Commercial Suite:					
1 room 22 x 35.....				3	2
1 room 22 x 30.....	1,430	1.88			
Shop Suite:					
Electric 30 x 40.....				2	1
Sheet Metal 30 x 40.....				2	1
Utility Shop 40 x 60.....	7,200	9.44		4	1
Woodwork Shop 40 x 60.....				4	1
Washrooms and toilets out of above space.....			2		
Administrative Suite:					
General office and lobby.....			1		
Principal's private office.....			1		
Vice-prin. and Counselor's private office.....	1,496	1.96		1½	
Teachers' room.....			1	1	
Halls:					
16 ft. with abundant exits to include lockers.....	15,040	19.72			
Toilet Facilities.....	4,192	5.50			
Storage space:					
For supplies and equipment.....	300	.39			
Total.....	76,266	100.00	12	73	39
Total Instructional Rooms.....	47,144	61.82			

¹ Taken from Superintendent's Bulletin, Vol. VI, No. 7, "The Oakland Junior High Schools," Oakland Public Schools, Oakland, Calif., October 1, 1925.

some semblance to a real junior high school. So far no one has been bold enough to say whether this minimum number should be 150 or 100 or even less.

Spaulding¹ summarized his conclusions in terms of junior high schools of various sizes as follows:

I. The economical offering of a program of electives within single grades is possible only to the school enrolling (a) 50 pupils or more per grade, or (b) between 30 and 35 pupils per grade.

1. *Schools enrolling more than 55 pupils per grade:* With adequate teaching staff and equipment, the three-year school of more than 165 pupils, or the two-year school of more than 110 pupils, may expect to inaugurate economically any desired program of election on a paired-elective basis, together with a limited program of election on the one-out-of-three basis.

2. *Schools enrolling from 50 to 55 pupils per grade:* The three-year school of between 150 and 165 pupils, or the two-year school of between 100 and 110 pupils, may offer economically any desired program on the paired-elective basis. It cannot, however, expect to provide economically any substantial program of election on the one-out-of-three basis; and it may be obliged to fall back upon a limited number of grade- or section-combinations to compensate for the necessary sub-division of over-large elective groups.

3. *Schools enrolling from 30 to 35 pupils per grade:* The three-year school of between 90 and 110 pupils, or the two-year school of between 60 and 75 pupils, may expect to offer one-third or more of its work on a paired-elective basis without reducing its average class-enrolment below the standard.

II. Schools enrolling fewer than 30 pupils per grade must resort to combination of grades

in elective classes or required classes or both, in order to maintain an economical average of class-enrolments. Such schools will find the combined junior-senior high-school organization of definite advantage in the provision of suitable grade-combinations.

III. Schools enrolling fewer than 25 pupils per grade or grade-section cannot offer any substantial program of election with the expectation of attaining an economical average of class-enrolments.

Do not drift into a junior high-school organization; face issues first. The essential idea in this Chapter is "Look before you leap." It emphasizes the importance of studying the functions of a real junior high school, its relative cost, the special training and personal qualifications of junior high-school teachers, their certification requirements, special buildings and equipment needed, and the number of pupils necessary to carry out the functions of a real junior high school. It is a poor policy to drift into a junior high-school organization without facing issues. Where there is a will, when issues are faced squarely they usually can be met. Under these conditions the possibilities of the small junior high school can be capitalized and its limitations can be overcome to some extent. Unless this is the case, it may be better for a particular community to improve its traditional school rather than to try to organize a separate junior high-school unit. Many small communities are finding that the six-year school, the combined junior-senior high school, offers the best means for providing enlarged opportunities for seventh and eighth grade pupils.

¹ Spaulding, Francis T., *The Small Junior High School*, Cambridge, Harvard University Press, 1927. A study of 19 junior high schools in Massachusetts, having an enrolment of approximately 160 pupils or less.

THE TEACHER WHO works with pupils of adolescent age must have special qualifications. In addition to the qualifications, scholarship, training and successful experience, and the important phases of ability sought in all teachers, vitality, personality, social intelligence, professional spirit, control over method, leadership, executive ability and adaptability, additional special qualifications are required.

This teacher must have a good knowledge of adolescent characteristics and really enjoy working with young people. She must have extra patience, extra sympathy, and a saving sense of humor. Because of the exploratory and guiding functions of the junior-high-school this teacher must have a keen sense of the deeper meanings of life and life's relations and definite training in educational diagnosis, prognosis, and guidance.—*Flint Bulletin of Education, Junior High School Number, March and April, 1925, p. 42.*

Junior High School Program of Studies

THROUGH WHAT subjects are the purposes of the junior high school realized? No junior high-school program of studies can be prescribed as standard. Many people rightly feel that standardization at this time is highly undesirable. The junior high school is a new educational unit with functions exclusively its own. It would be unfortunate if it were overwhelmed through compromises with conventional procedures; or if it were crystallized in the form of the average or median of current practices.

In the last analysis, the curriculum consists not in words, facts, or subjects, but rather in what the pupils themselves do. According to one writer:

The curriculum includes all of the activities and experiences provided or encouraged by the school whereby all the children at the dawn of adolescence may learn to participate effectively in civil life

and whereby each one may realize, harmonize, and express himself adequately.

What subjects at present are most frequently selected by junior high schools as means for developing in each individual the "knowledges, interests, ideals, habits, and powers whereby he will find his place and use that place to shape both himself and society toward ever nobler ends"?¹

To discover current practice regarding subjects offered in junior high schools throughout the country, a list of junior high schools of various sized enrolments and of wide geographical distribution was selected.

A personal letter was sent each of the principals of these junior high schools, asking for copies of the program of studies followed in their schools during the Spring term of 1927, and for the following information:

1. What grades are included in your junior high school?

2. Number pupils enrolled during Spring term of 1927?

3. What subjects are required in each grade?

..... Grade		 Grade		 Grade	
Required Subjects	Periods per week	Required Subjects	Periods per week	Required Subjects	Periods per week
.....					
.....					
.....					
.....					
.....					

4. What subjects are elective in each grade?

..... Grade		 Grade		 Grade	
Elective Subjects	Periods per week	Elective Subjects	Periods per week	Elective Subjects	Periods per week
.....					
.....					
.....					
.....					
.....					

NOTE.—In 3 and 4 please do not merely list large subject heads such as art and mathematics, but list subjects included under these heads. To illustrate: Mathematics—arithmetic, algebra, general mathematics, business arithmetic, etc.

5. How many minutes are there in each class period?

Of the great mass of material received, which specified the number of periods per only those programs of studies could be used week allotted to each subject, and which classi-

¹ *Cardinal Principles of Education*, U. S. Bureau of Education, Bulletin, 1918, No. 35, page 9.

fied the subjects as constants and electives. One hundred and thirty-nine such programs were selected for analysis.¹

These programs of studies merely suggest the formal class activities. In addition, one must remember the educational influences of the assembly, student council, scout troop, student clubs, lunch-room, class organizations, and various teams and student groups which constitute so large a part of the complete junior high-school program.

Four types of programs of studies—An analysis of junior high-school programs from thirty-one states shows that they fall into these four main classifications: (1) The single-curriculum type, (2) the pure multiple-curriculum type, (3) the constants-with-variables type, and (4) the combination type.²

Under the single-curriculum type of program all pupils take identical work. It is offered in only a few schools—usually those that are junior high schools in name and not in practice.

The multiple-curriculum plan provides for two or more fully prescribed curriculums to be pursued by as many groups of pupils. A pupil selects one of these type curriculums and is supposed to follow it throughout the junior high school period. In its "pure" form all the subjects in each year are prescribed, no variation being allowed except in selecting the curriculum pursued.

The most common type of junior high school program is the constants-with-variables. This type of program requires that all pupils in each grade of the junior high school take particular subjects called constants. In addition, variable subjects or electives are offered from which each pupil may elect a given number.

The combination forms of junior high school programs have some characteristics of all three of the types described above.

Subjects most frequently offered in one hundred and thirty-nine junior high schools—The following four composite programs of studies for junior high school are the result of tabulating the courses in one hundred and thirty-nine junior high schools, located in thirty-one states, and classified according to number of pupils enrolled.³ The enrolments ranged from eight pupils to twenty-four hundred. The fifth program of studies is a union of the first four. In each of these five composite programs, subjects are arranged in the order of relative emphasis as indicated by the amount of time devoted to each subject. If subjects occur with equal frequency, precedence is given to that subject which is offered the most periods per week. For example, in the list of seventh-grade subjects for junior high schools with an enrolment of 250 pupils or less, English courses rank ahead of social studies (ranked second), since more periods per week are devoted to them. In like manner,

¹ These 139 programs came from 31 different states. For purposes of analysis, they were arranged in four groups, according to size of pupil enrolments in the junior high schools where they are used. The following cities, representing 14 different states, submitted programs of studies from junior high schools having an enrolment of 250 pupils or less: Caneator, Ala.; Fresno and Oakland, Calif.; Newton, Conn.; Homer, Ind.; Cedar Falls and Clarinda, Iowa; Boston, Falmouth, Longmeadow, Nahant, and Wrentham, Mass.; Stambaugh, Mich.; Franklin, N. J.; Valhalla, N. Y.; Ashtabula, Marion, and Mt. Gilead, Ohio; Willow Grove, Beaver Falls, Chadds Ford, and Narberth, Pa.; Hillsboro, Va.; McComas and Springtown, W. Va.; and Fond du Lac and Superior, Wis.

The following cities, representing 17 different states, submitted programs of studies from junior high schools having enrolments ranging from 251 to 500 pupils: Fresno, Long Beach, Oakland, and San Francisco, Calif.; Denver, Colo.; Meriden, Conn.; Pocatello, Idaho; Rock Island, Ill.; Logansport and South Bend, Ind.; Dubuque, Iowa; Iola, Kans.; Lexington, Ky.; Boston, Holyoke, Lexington, Pittsfield, South Boston, and Watertown, Mass.; Grand Rapids and Kalamazoo, Mich.; Montclair and Princeton, N. J.; Massillon and Piqua, Ohio; Eugene, Oreg.; Salt Lake City, Utah; Charleston, W. Va.; and Marshfield and Wauwatosa, Wis.

The following cities, representing 22 different states, submitted programs of studies from junior high schools having enrolments ranging from 501 to 1,000 pupils: Little Rock, Ark.; Berkeley, Fresno, Long Beach, Oakland, Petaluma, Sacramento, Santa Ana, and San Francisco, Calif.; Denver, Colo.; New Haven, Conn.; Washington, D. C.; Richmond, South Bend, and Terre Haute, Ind.; Emporia and Lawrence, Kans.; East St. Louis, Ill.; Sioux City, Iowa; Arkansas City, Hutchinson, and Wichita, Kans.; Lexington, Ky.; Arlington, Boston, Chelsea, and Lowell, Mass.; Bay City, Holland, and Kalamazoo, Mich.; Duluth and Minneapolis, Minn.; Trenton, N. J.; Jamestown and Syracuse, N. Y.; Reno, Nev.; Canton, Columbus, and Dayton, Ohio; Ambridge, Easton, and Johnstown, Pa.; Aberdeen, S. D.; Burlington, Vt.; and Huntington, W. Va.

The following cities, representing 14 different states, submitted programs of studies from junior high schools having enrolments of over 1,000 pupils: Little Rock, Ark.; Berkeley, Los Angeles, Oakland, Pasadena, Riverside, and San Diego, Calif.; Denver, Colo.; Des Moines, Iowa; Baltimore, Md.; Springfield, Mass.; Flint, Lansing, and Detroit, Mich.; Minneapolis, Minn.; St. Louis, Mo.; Lincoln, Nebr.; New York, N. Y.; Cleveland and Youngstown, Ohio; New Castle and Philadelphia, Pa.; and Tacoma, Wash.

² For a detailed discussion of these four types, see: Koos, Leonard V., *The Junior High School*. Ginn and Company, 1927, pp. 143-168.

³ Similar studies based on data collected in 1914-15, 1920-21, and 1925-26, are cited below:

Aubrey A. Douglas, "The Junior High School," *The Fifteenth Yearbook of the National Society for the Study of Education*, 1916, Part III, pp. 77-83.

J. Harvey Rodgers, "Junior High School Curricula and Programs," *School Review*, March, 1921, Vol. XXIX, pp. 198-205.

R. M. Tryon, H. L. Smith, and Allan F. Rood, "The Program of Studies in Seventy-eight Junior High School Centers," *School Review*, February, 1927, Vol. XXXV, pp. 96-107.

I.—PROGRAM OF STUDIES FOR A JUNIOR HIGH SCHOOL WITH AN ENROLMENT OF 250 PUPILS OR LESS
(Based on Practices in 27 Junior High Schools)

Seventh Grade		Eighth Grade		Ninth Grade	
Subject	Average number periods per week	Subject	Average number periods per week	Subject	Average number periods per week
English ¹	7	English.....	7 ¹	English.....	5
Social Studies ¹	7	Social Studies.....	6 ¹	Mathematics.....	5
Mathematics.....	5	Mathematics.....	5	Social Studies.....	5
Health.....	3	Music.....	2	Health.....	2
Music.....	2	Health.....	2	Science.....	4
Home Economics.....	3	Art.....	2	*Foreign Language.....	2
Art.....	2	Industrial Arts.....	3	*Music.....	2
Industrial Arts.....	3	Home Economics.....	3	*Industrial Arts.....	6
				*Home Economics.....	6
				*Art.....	2

¹ Each of these subject groups has more than five periods a week because it includes two or more subjects.
* Variable.

II.—PROGRAM OF STUDIES FOR A JUNIOR HIGH SCHOOL WITH AN ENROLMENT OF 251-500 PUPILS
(Based on Practices in 32 Junior High Schools)

Seventh Grade		Eighth Grade		Ninth Grade	
Subject	Average number periods per week	Subject	Average number periods per week	Subject	Average number periods per week
Social Studies.....	7 ¹	English.....	6 ¹	English.....	5
English.....	7 ¹	Social Studies.....	6 ¹	Health.....	2
Mathematics.....	5	Mathematics.....	5	Social Studies.....	4
Health.....	3	Health.....	2	*Mathematics ²	5
Industrial Arts.....	3	Music.....	2	*Foreign Language.....	5
Music.....	2	Industrial Arts.....	3	*Industrial Arts.....	5
Home Economics.....	4	Home Economics.....	3	*Home Economics.....	5
Art.....	2	Art.....	2	*Science.....	5
		Science.....	4	*Music.....	5
		*Foreign Language.....	4	*Art.....	4

¹ Each of these subject groups has more than five periods a week because it includes two or more subjects.
* Variable.
² Mathematics is a required subject in the ninth grade in 15 out of the 32 programs of studies analyzed.

III.—PROGRAM OF STUDIES FOR A JUNIOR HIGH SCHOOL WITH AN ENROLMENT OF 501-1000 PUPILS
(Based on Practices in 49 Junior High Schools)

Seventh Grade		Eighth Grade		Ninth Grade	
Subject	Average number periods per week	Subject	Average number periods per week	Subject	Average number periods per week
Social Studies.....	7 ¹	Social Studies.....	6 ¹	English.....	5
English.....	7 ¹	English.....	6 ¹	Health.....	3
Mathematics.....	5	Mathematics.....	5	Social Studies.....	5
Health.....	3	Health.....	3	Mathematics.....	5
Music.....	2	Industrial Arts.....	3	*Music.....	2
Industrial Arts.....	3	Home Economics.....	3	*Foreign Language.....	5
Home Economics.....	3	Music.....	2	*Industrial Arts.....	6
Art.....	2	*Art ²	2	*Home Economics.....	6
		*Foreign Language.....	5	*Commercial Studies.....	5
		*Science ³	4	*Art.....	5
		*Commercial Studies ⁴	5	*Science.....	5

¹ Each of these subject groups has more than five periods a week, because it includes two or more subjects.
* Variable.
² Art is a required subject in eighth grade in 22 out of 49 programs of studies analyzed.
³ Science is a required subject in the eighth grade in 23 out of the 49 programs of studies analyzed.
⁴ Commercial studies are offered as an elective in 24 out of the 49 programs of studies analyzed.

the aggregate number of periods per week is greater for social studies than for mathematics (ranked third), and so on.

The "number of periods per week" listed is the average of the number of class sessions each week for each subject during the entire year. A subject offered five times a week for a half-year is considered equivalent to a subject offered two and one-half times a week for a year. No attempt was made to equalize length of class periods. Table 5 on page 24 shows the length of class periods in junior high schools of different sizes. Subjects required of all pupils where the multiple-curriculum plan was followed were interpreted as constants. In the multiple-curriculum plan, subjects were tabulated as vari-

¹ The term variable is used here as synonymous with elective. A variable or an elective subject is one which is offered, but which the pupil may choose to take or not as he desires.

IV.—PROGRAM OF STUDIES FOR A JUNIOR HIGH SCHOOL WITH AN ENROLLMENT OF OVER 1000 PUPILS (Based on Practices in 31 Junior High Schools)

Seventh Grade		Eighth Grade		Ninth Grade	
Subject	Average number periods per week	Subject	Average number periods per week	Subject	Average number periods per week
English.....	6 ¹	English.....	6 ¹	English.....	5
Social Studies.....	6 ¹	Social Studies.....	5	Health.....	3
Mathematics.....	5	Health.....	3	Social Studies.....	4
Health.....	3	Mathematics.....	5	*Mathematics ²	5
Industrial Arts.....	4	Music.....	2	*Music.....	4
Music.....	2	Science.....	3	*Industrial Arts.....	6
Home Economics.....	4	Industrial Arts.....	4	*Home Economics.....	6
Art.....	2	Home Economics.....	3	*Foreign Language.....	5
		Art.....	2	*Commercial Studies.....	5
		*Foreign Language.....	5	*Art.....	5
		*Commercial Studies.....	4	*Science.....	5

¹ Each of these subject groups has more than five periods per week, because it includes two or more subjects.

*Variable.

² Mathematics is required in the ninth grade in 13 out of the 31 programs of studies analyzed.

V.—PROGRAM OF STUDIES FOR A JUNIOR HIGH SCHOOL (Based on Practices in 139 Junior High Schools)

Seventh Grade		Eighth Grade		Ninth Grade	
Subject	Average number periods per week	Subject	Average number periods per week	Subject	Average number periods per week
Social Studies.....	7 ¹	Social Studies.....	6 ¹	English.....	5
English.....	7 ¹	English.....	6 ¹	Health.....	3
Mathematics.....	5	Mathematics.....	5	Social Studies.....	5
Health.....	3	Health.....	3	Mathematics.....	5
Music.....	2	Music.....	2	*Foreign Language.....	5
Industrial Arts.....	3	Industrial Arts.....	3	*Industrial Arts.....	6
Home Economics.....	3	Home Economics.....	3	*Home Economics.....	6
Art.....	2	Art.....	2	*Music.....	4
		*Foreign Language.....	5	*Commercial Studies.....	5
		(?).....	3	*Science.....	5
				*Art.....	5

¹ Each of these subject groups has more than five periods per week because it includes two or more subjects.

* Variable.

² Science is a required subject in 67 out of the 139 programs analyzed.

Table 6 on pages 26-27 supplements these programs of studies by showing the make-up of each particular subject which occurs as a constant in the junior high school. For example, geography, history, and civics are the three junior high-school subjects commonly classified as social studies. Table 6 shows all the variations from these three leading subjects. On page 25 are listed the topics included in each subject group of variables.

Tendencies revealed by an analysis of one hundred thirty-nine junior high-school programs—Those charged with the responsibility of organizing junior high-school programs of study will want to examine the composite programs presented on pages 22-23 in detail. These appear to be some of the general tendencies:

1. Introduction of variables into the eighth grade of the majority of programs. Less than half of the programs analyzed provided some opportunity other than extra-curriculum activities for variability in the seventh grade.

2. In the ninth grade few constants are required of all pupils, and there is a choice of many variables.

3. In practice there is no clear-cut distinction between what is constant and what is variable. Certain subjects which are prescribed in one junior high school are elective in another. This variation in practice is, of course, justified when it is based on differences in pupil and community needs. It would appear, however, that the functions peculiar to the junior high school had not always been the criterion for the selection of those subjects which are required of every pupil in a particular junior high school.

4. Practice is by no means uniform as to what particular opportunities for exploration and guidance should be offered through such subjects as industrial arts, home economics, fine arts, and commercial subjects, judging from the different topics included under each of these subject heads in different junior high schools.

Relation of size of enrolment in the junior high school to variety of subjects offered—

Compare the composite program of studies for junior high schools with an enrolment of 250 pupils or less with that for junior high schools with an enrolment of over 1,000. There is not only a greater number of subject groups from which to choose in the larger junior high schools, but there is also a much wider range of topics included in each subject group.

The size of enrolment, doubtless, also determines, to a greater or less extent, the amount of sectioning of pupils on an ability basis that is administratively possible. In establishing junior high schools, school boards should face this question: What is the minimum enrolment at which a bona fide junior high school can actually function?

What constants form the core curriculum of the junior high school? English, social studies, mathematics, health, music, industrial arts, home economics, and art are the eight subjects which most frequently form the core of required subjects in the junior high school. An analysis of programs of studies in one hundred and thirty-nine junior high schools shows that English, social studies, health, and mathematics are required subjects throughout the seventh, eighth, and ninth grades. Table 6 on pages 26-27 lists all subjects offered as constants, and shows the number of times each subject occurs as a constant in each grade.

What subjects are elective in the junior high school? Below are listed the variables offered in one hundred and thirty-nine junior high schools. In many cases the subjects included in this list duplicate those in the list of constants. This is due to the fact that in one junior high school a particular subject may be prescribed and in another it is elec-

TABLE 5.—LENGTH OF CLASS PERIODS IN JUNIOR HIGH SCHOOLS WITH DIFFERENT SIZED ENROLMENTS

Size of Junior High School	Number of Schools	Length of Class Period	
		Median	Upper and Lower Limits
1	2	3	4
250 or Less.....	27	45 min.	60-35
251-500.....	32	45 min.	70-40
501-1000.....	49	50 min.	70-30
Over 1000.....	31	50 min.	60-32

tive. The wide range of topics presented here does not mean that any one junior high-school pupil has opportunity to choose his electives from these extensive offerings. It is a composite list of the electives offered in one hundred and thirty-nine different schools. Cer-

tain of the subjects are taught in only one or two schools. The variety of these elective subjects shows that a real effort is being made to offer junior high-school pupils opportunity for exploration; the kind of opportunity offered varies widely between schools.

Variables or Electives in the Programs of Studies of 139 Junior High Schools¹

English:

- 7th Grade: Extra English, English expression, penmanship, spelling, literature, and dramatics.
- 8th Grade: Penmanship, spelling, language, dramatics, English, debating, literature, extra English, journalism, public speaking, Bible literature, and drama.
- 9th Grade: Penmanship, journalism, dramatics, oral English, English, news writing, public speaking, and Bible literature.

Mathematics:

- 7th Grade: Arithmetic.²
- 8th Grade: Algebra and arithmetic.
- 9th Grade: Algebra and general mathematics.

Social Studies:

- 7th Grade: Geography.²
- 8th Grade: Industrial geography, civics, and geography.
- 9th Grade: Social studies, vocational civics, ancient history, civics, world history, general geography, medieval history, citizenship, and modern Europe.

Industrial Arts:

- 7th Grade: Wood-work, agriculture, shop, manual training, manual arts, printing, practical arts, and auto-mechanics.
- 8th Grade: Wood-work, mechanical drawing, agriculture, shop, practical arts, manual art, electrical shop, mechanic arts, printing, pre-vocational, sheet-metal, household mechanics, drafting, and elementary mechanics.
- 9th Grade: Sheet-metal, electric wiring, wood-work, mechanical drawing, manual training, agriculture, shop, printing, practical arts, auto shop, drafting, metal shop, radio, shoe repair, home mechanics, and mechanic arts.

Home Economics:

- 7th Grade: Sewing, cooking, household arts, domestic science, and home-making.
- 8th Grade: Sewing, cooking, domestic art, domestic science, household arts, practical arts, home-making, personal appearance and clothing selection, home economics, and cafeteria.
- 9th Grade: Sewing, cooking, domestic art, home economics, domestic science, household arts, practical arts, dinner cookery and hospital-ity, and millinery.

Health:

- 7th Grade: Physical training.²
- 8th Grade: Hygiene and physical education.³
- 9th Grade: Physical education.²

Music:

- 7th Grade: Band, music, orchestra, instrumental music, glee club, and chorus.
- 8th Grade: Music, band, orchestra, glee club, chorus, instrumental music, and music ap-preciation.
- 9th Grade: Music, band, orchestra, glee club, notation and sight-singing, instrumental mu-sic, and music appreciation.

Art:

- 7th Grade: Art and drawing.
- 8th Grade: Art, drawing, appreciation, design, freehand drawing, commercial art, craft, costume design, and interior decorating.
- 9th Grade: Art, freehand drawing, drawing, art appreciation, lettering and printing, and design.

Science:

- 7th Grade: General science and science.
- 8th Grade: General science.
- 9th Grade: Science, general science, biology, botany, natural science, earth science, and physiology.

Foreign Languages:

- 7th Grade: Latin, French, Spanish, German, and general language.
- 8th Grade: French, Latin, general language, Spanish, and German.
- 9th Grade: Spanish, French, Latin, and Ger-man.

Commercial Subjects:

- 7th Grade: Typing, business English, and com-mercial arithmetic.
- 8th Grade: Junior business training, business practice, typewriting, business arithmetic, business, pre-commercial, stenography, busi-ness English, business forms, and clerical practice.
- 9th Grade: Bookkeeping, junior business train-ing, commercial geography, commercial arithmetic, typewriting, business practice, exploratory stenography, and stenography.

Seventh Grade

The majority of the one hundred and thirty-nine junior high-school programs ana-

¹ For definition of a variable or elective subject, see footnote on page 23. This list does not include extra-curriculum activities.

² Required in all programs analyzed except one.

³ Required in all programs analyzed except two.

TABLE 6.—SUBJECTS OFFERED AS CONSTANTS IN 139 JUNIOR HIGH SCHOOLS, ARRANGED ACCORDING TO NUMBER OF PUPILS ENROLLED

Subject Groups	27 Junior high schools enrolling 250 or less pupils				32 Junior high schools enrolling 251-500 pupils				49 Junior high schools enrolling 501-1000 pupils				31 Junior high schools enrolling over 1000 pupils				139 Junior high schools enrolling from 8-2400 pupils			
	Grades				Grades				Grades				Grades				Grades			
	7th	8th	9th	Number of Schools	7th	8th	9th	Number of Schools	7th	8th	9th	Number of Schools	7th	8th	9th	Number of Schools	7th	8th	9th	Number of Schools
English group	2	3	4		5	6	7		8	9	10		11	12	13		14	15	16	
English group	27 ¹	27	27		32 ¹	32	32		49 ¹	48	49		31 ¹	31	31		139 ¹	138	139	
English	21	22	25		31	31	32		43	45	47		28	29	31		123	127	135	
Spelling	8	8	7		3	3	0		14	9	3		3	3	0		25	18	5	
Penmanship	6	7	0		10	5	1		7	6	2		0	0	0		37	24	3	
Reading	4	5	0		0	0	0		6	1	0		0	0	0		17	7	0	
Grammar	3	2	1		1	0	0		6	2	3		2	0	0		17	7	0	
Composition	2	1	0		1	0	0		2	2	0		0	0	0		17	7	0	
Language	2	1	0		1	0	0		0	2	0		0	0	0		17	7	0	
Literature	1	3	0		0	0	0		0	0	0		0	0	0		17	7	0	
Classics	1	1	1		2	3	2		8	7	5		5	3	0		16	14	8	
Oral English	0	0	0		0	1	0		0	0	0		0	0	0		0	1	0	
Public Speaking	0	0	0		0	0	0		1	0	1		0	0	0		1	0	1	
Social Studies group	27 ¹	27	18		32 ¹	32	18		49 ¹	49	33		31 ¹	31	21		139 ¹	139	90	
History	24	19	3		24	24	0		26	31	2		15	16	1		89	90	6	
Geography	21	10	1		22	7	0		34	7	0		17	8	0		94	32	1	
Guidance and Occupations	3	2	0		1	1	0		6	5	5		5	2	3		15	10	11	
Civics	2	7	15		5	14	10		3	5	24		3	5	9		13	34	58	
Social Studies	2	2	0		0	0	0		5	5	1		5	5	4		12	12	5	
Social Science	2	2	0		0	0	0		1	0	0		0	0	0		2	1	3	
Club Activities	1	2	0		2	1	0		3	3	1		0	0	0		6	7	1	
Social Science	1	1	0		0	6	6		10	12	5		7	7	6		25	26	17	
Ancient History	0	0	0		0	0	0		0	0	1		0	0	0		0	0	4	
Constitution	0	0	0		2	1	0		0	0	0		0	0	0		2	1	0	
World History	0	0	0		0	0	1		0	0	2		0	0	0		0	0	3	
Mathematics group	27 ¹	27	20		32 ¹	31	15		49 ¹	48	28		31 ¹	28	13		139 ¹	134	76	
Arithmetic	18	14	0		16	13	0		24	24	0		14	12	0		72	63	0	
Mathematics	5	7	1		8	5	1		9	17	1		14	15	5		36	39	8	
General Mathematics	4	4	3		8	11	3		15	13	5		3	5	1		30	30	17	
Algebra	0	2	16		0	2	11		0	5	22		0	0	8		0	14	57	
Junior Mathematics	0	0	0		0	0	0		1	0	0		0	0	0		1	0	0	
Music group	19 ¹	19	13		26 ¹	25	11		39 ¹	29	20		26 ¹	25	14		110 ¹	98	58	
Music	19	19	12		26	24	9		31	23	14		20	21	11		96	87	46	
Music Appreciation	0	1	1		0	0	0		1	0	1		1	1	0		2	2	2	
Chorus	0	0	1		0	1	2		4	4	3		4	4	3		8	9	9	
Vocal Music	0	0	0		0	0	0		3	2	2		2	0	0		5	2	2	

Health group.....	19 ¹	18	16	29 ¹	29	21	40 ¹	41	39	29	29	28	117 ¹	117	104
Hygiene.....	6	4	1	6	5	3	7	5	5	7	4	5	26	18	14
Physical Training.....	6	7	8	10	9	7	8	10	11	3	3	3	27	29	29
Health ²	5	4	4	0	0	0	5	4	3	6	8	7	16	17	14
Physical Education.....	4	5	4	15	15	11	20	20	22	19	18	19	58	57	56
Physiology.....	1	1	0	2	3	0	2	1	0	0	0	0	5	5	0
Gymnasium.....	0	0	0	1	2	1	4	4	3	2	3	2	7	9	6
Home Economics group.....	17 ¹	14	6	22 ¹	20	2	33 ¹	29	6	25 ¹	18	2	97 ¹	81	16
Sewing.....	5	3	3	1	1	0	9	1	1	12	10	1	27	15	5
Domestic Science.....	5	5	2	2	2	0	5	6	2	0	0	0	12	13	4
Cooking.....	3	2	2	4	5	1	3	8	1	14	9	1	22	21	4
Domestic Arts.....	2	1	0	4	4	1	6	4	0	0	0	0	12	10	1
Practical Arts.....	2	2	1	4	4	1	4	3	2	2	2	0	12	11	4
Home Economics ²	1	1	0	7	5	0	7	6	0	6	4	1	22	16	1
Household Arts.....	1	2	0	2	2	0	3	2	1	1	0	0	7	6	1
Home-Making.....	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0
Laundry.....	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Industrial Arts group.....	16 ¹	16	6	27 ¹	24	3	37 ¹	32	6	26 ¹	18	4	106 ¹	90	19
Manual Training.....	7	9	2	11	8	1	12	9	2	4	2	0	34	28	5
Manual Arts.....	3	0	0	6	6	0	8	8	0	7	6	2	22	20	2
Shop Work.....	2	2	1	3	3	0	3	10	2	8	7	2	21	22	5
Mechanical Drawing.....	2	1	0	1	1	0	0	1	1	9	6	1	14	9	3
Agriculture.....	1	1	0	1	0	0	0	0	0	1	0	0	3	1	0
Practical Arts.....	1	2	1	7	4	1	4	3	2	3	2	0	15	11	4
Woodwork.....	1	1	1	1	1	1	3	2	0	3	2	0	8	6	2
Sheet-Metal.....	0	1	0	1	1	1	0	0	0	0	0	0	1	2	1
Home Mechanics.....	0	0	0	1	0	0	1	0	0	0	0	0	3	0	0
Electricity.....	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0
Art group.....	17 ¹	17	9	22 ¹	20	3	32 ¹	22	4	21 ¹	18	5	92 ¹	77	21
Art ³	9	9	5	12	12	1	15	10	2	14	12	4	50	43	12
Drawing.....	7	7	4	10	8	1	15	12	1	6	4	1	38	31	7
Freehand Drawing.....	1	1	0	0	0	0	3	0	0	0	1	0	4	2	0
Art Appreciation.....	0	0	0	0	0	1	0	0	1	1	1	0	1	1	2
Science group.....	7 ¹	6	15	12 ¹	19	10	18 ¹	23	11	9 ¹	19	10	46 ¹	67	46
General Science.....	4	3	10	6	11	7	6	13	5	5	9	7	21	36	29
Science ⁴	2	3	1	0	3	2	9	10	3	4	9	2	21	30	8
Elementary Science.....	1	0	0	0	0	0	0	0	0	0	0	0	1	0	6
Biology.....	0	0	2	0	0	1	0	0	3	0	0	1	0	0	7
Nature Study.....	0	0	0	0	0	0	3	0	0	0	0	0	3	1	0
Physical Geography.....	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2

¹ This is not intended to be the sum of the column, for in some schools more than one subject in the group is taught.

² Exact nature of course not specified.
³ Read table thus: An analysis of the programs of studies in 27 junior high schools enrolling 250 pupils or less shows that in all 27 schools some form of English is offered as a constant (required of all pupils) in grades 8-9. 21 schools "English" (exact nature of course not specified) is required in the seventh grade; in 22 schools, in the eighth; and in 25 schools in the ninth grade. Spelling is required in the seventh grade in 8 out of the 27 schools analyzed. In addition to spelling, other required subjects in the English group are grammar, reading, grammar, composition, language, literature, classics, oral English and public speaking. In 32 junior high schools having an enrollment of 251-500 pupils, some form of English is required of all pupils in grades 7-9. Similarly read data for junior high schools with larger enrollments and for different subject groups.

lyzed do not offer elective subjects in the seventh grade. Apparently the work in this grade is regarded as a try-out and practically all pupils follow the same curriculum, made up of social studies, English, mathematics, health, music, industrial arts, home economics, and art. In forty-six out of the one hundred and thirty-nine programs analyzed, or thirty-three percent, science was also a required subject in the seventh grade.

In about one out of five of the junior high-school programs analyzed foreign languages are offered as electives in the seventh grade. Frequently they are offered as electives to pupils who can do more work than is provided in the limits of the "core curriculum."

In junior high schools where home economics and industrial arts are not required subjects in the seventh grade, they are frequently offered as electives. More junior high schools, however, require these subjects in the seventh grade than in either the eighth or ninth grades.

Geography appears to be the most popular subject in the seventh-grade social studies group. It appeared as a required subject in ninety-four of the one hundred and thirty-nine programs analyzed; while history appeared in eighty-nine. Civics was mentioned as a required subject in the seventh grade only thirteen times. It is interesting to note that in more than one-fourth of the junior high-school programs of studies the separate subjects which comprise the social studies group in the seventh grade are not designated. There is a question as to whether in these programs this group is labeled "social science" or "social studies" for administrative purposes rather than because the subjects have been welded together into a unit course.

Eighth Grade

Differentiation of junior high-school subjects may be said to begin in the majority of schools in the eighth grade. Foreign languages and commercial studies are the subjects most frequently offered as variables. In those schools where home economics, industrial arts, music, and art are not required in the eighth grade, they are frequently offered as variables.

Science has been practically adopted as a constant in the eighth grade in the majority of junior high schools.

In the social studies group, history is the most popular eighth-grade subject; civics takes second place, and geography third.

Table 6 suggests that there is considerable lack of agreement among junior high-school authorities as to the exact nature of the subject-matter appropriate to the newer social science courses and to the proper place of these courses in the curriculum.¹

Ninth Grade

English, health, social studies, and mathematics are the four subjects most frequently required in the ninth grade of the junior high school. Algebra is the subject most often required in the mathematics group, and civics in the social studies group. Music is a required subject in the ninth grade in fifty-eight out of one hundred and thirty-nine programs; science is required in forty-six. Foreign language is offered as an elective in one hundred and twenty ninth-grade programs; industrial arts in one hundred and eight; and home economics in one hundred and one.

It is significant that health is offered as a ninth-grade constant in more programs of studies than is any other subject except English.

Each junior high-school course of study should still be described as "tentative." The extensive list of junior high-school variables on page 25 indicates the present widespread experimentation with junior high-school courses. The present situation is dynamic, since it is prophetic of greater progress yet to come. An analysis of one hundred and thirty-nine junior high-school programs twenty-four months from now would doubtless yield quite different results from those obtained in the foregoing study. The present period of evolutionary experimentation is one of the most healthful characteristics of the junior high-school movement. Time, deliberate judgment, scientific experimentation, and research are all needed before any standard junior high-school program of studies can develop. This is particularly true, because of the strategic position of the junior high as the intermediate school of transition.

¹ See Chapter XII of the Fifth Yearbook of the Department of Superintendence, *The Junior High School Curriculum*, also Chapter XIII of the Sixth Yearbook, *The Development of the High School Curriculum*. National Education Association, 1201 Sixteenth Street, N. W., Washington, D. C.

Contributions of Research to Junior High School Curriculum Building

HOW FAR HAS research gone in determining the course of study of the junior high school? Research has gone a long way in determining the content of such elementary school courses as spelling, writing, reading, and arithmetic. The same degree of progress has not been made in junior high school subjects. Yet even in these fields results are available which should not be ignored by those who would draft a truly modern course of study. Many findings are tentative, and point the way toward the fields in which prolonged experimentation and extensive research are necessary to determine what should be included in the junior high school curriculum. This does not mean that one should look forward to the time when junior high school education is mechanized or that a cold scientific procedure can ever become the sole basis of educational development.

The exploratory function of the junior high school can best be realized when teachers themselves have an experimental attitude and are seeking better to understand the needs of adolescent youth, the complexity of modern life, and the social adjustments which each individual must make. As long as civilization progresses, curriculum adjustments will be necessary. This means that teachers must be forward-looking, making use of such research findings as are available and working with an open mind and an experimental attitude.

By an *a priori*, haphazard, guessing method one may write out what may be taught in the junior high school. A better method is to set up a program of investigation that will

seek scientifically to discover what specific information, habits, attitudes, and ideals should be provided through pupil activities.

Research and the philosophy of the junior high school—Research from one point of view includes philosophical inquiry; from another point of view it tests, selects, and renders effective the solution which philosophy offers. Without the descriptive and speculative processes, experimental or scientific activities lack interpretation. Without scientific methods, philosophical inquiry lacks concreteness.

People have been philosophizing for years on the psychology of the adolescent, his physiological development, his orientation in the social group, and his school needs. The result has been the development of a new school unit, designed and administered to meet the needs of adolescent youth. For fifteen years there has been investigation, experimentation, and some scientific research relative to junior high school curriculums. What are the salient findings, the central tendencies? Let us discover these, realizing, however, that the quantitative results will be incomplete and will require rational interpretation, and will only point the way toward further thought, measurement, comparison, and rationalization.

A partial summary of research findings—This brief section presents certain research findings relative to the junior high school curriculum. A complete statement has not been attempted.

Those who desire more detailed information should consult the publications¹ upon which the succeeding summary is based and in many cases it will be necessary to go back to the original research studies.

¹ 1. *The Junior High School Curriculum*, Fifth Yearbook, Department of Superintendence, National Education Association, 1201 16th St., N. W., Washington, D. C., 1927, 562 p.

2. *Research in Constructing the Elementary School Curriculum*, Third Yearbook, Department of Superintendence, National Education Association, 1925, Chapter VII, Social Studies.

3. Bobbitt, Franklin, *Curriculum Investigations*, Supplementary Educational Monograph, No. 31. The University of Chicago Press, Chicago, Ill., June, 1926.

4. Curtis, Francis D., *A Digest of Investigations in the Teaching of Science in the Elementary and Secondary Schools*, Philadelphia, Pa., P. Blakiston's Son & Co., 1926.

5. Douglass, A. A., *The Junior High School*, The Fifteenth Yearbook of the National Society for the Study of Education, Part III, Public School Publishing Company, Bloomington, Ill., 1920.

6. Glass, James M., *Curriculum Practices in the Junior High School and Grades 5 and 6*, Supplementary Educational Monograph, No. 25, November, 1924. The University of Chicago Press, Chicago, Ill.

7. *The Social Studies in the Elementary and Secondary School*, The Twenty-Second Yearbook of the National Society for the Study of Education, Public School Publishing Company, Bloomington, Ill., 1923.

8. *Extra-Curricular Activities*, The Twenty-Fifth Yearbook of the National Society for the Study of Education, Public School Publishing Company, Bloomington, Ill., 1926. Chapter III, General Survey of Practices: Junior High Schools.

This section is designed to serve these purposes:

1. It will indicate some of the methods that have been used to determine what should be included in the junior high school curriculum.

2. It will point out a few of the least tentative conclusions which may be based upon these findings.

3. It will offer ready reference to additional publications to be consulted by those seriously attacking the job of drafting better junior high school courses of study.

Research and the Curriculum in Social Studies

What are the social studies? According to the *Fifth Yearbook of the Department of Superintendence*, the social studies should be interpreted as being that body of subject-matter which includes the present acts of men, their background and their outlook. The committee on intermediate social studies of St. Louis¹ pointed out that:

Geography, as such, has to do with man's relation to his natural environment in which he lives. History, as such, deals with his relations as they have been controlled by the growth of community consciousness and the development of cooperative democracy. Civics as a formulated subject is the study of community cooperation and the practice of group activity. Since the trend of social studies in the junior high school is away from military and political history and toward social and industrial problems, and that of geography is toward the human approach, these two subjects are approaching a common ground.

While many school systems treat the various social studies—history, geography, civics, and economics—as separate subjects, there is evidence of a trend to unify and synthesize the materials of the curriculum below the senior high school.

The composite junior high school programs on pages 22 and 23 show that social studies form an essential part of the core curriculums of the seventh, eighth, and ninth grades. An analysis of current practice reveals wide variation as to topics included in the social science courses of different school systems. Available research findings only partially indicate trends as to what facts, topics, and problems are of greatest social value. Space permits here of only the briefest mention of some of these findings. Course of study committees will want to review the social science research studies cited, the Yearbooks of the National Society for the Study of Education² and the

Third and Fifth Yearbooks of the Department of Superintendence of the National Education Association.

Research in Determining Content

How determine content of social studies?

Until recently, the question as to what should be taught in history and related subjects has been determined almost entirely by the personal opinions of small national committees and by textbook writers. The chart on page 31 lists the recommendations made during the last thirty years by nine national committees, relative to what should be taught in grades 6-9. An analysis of this chart shows that, while conspicuous advances have been made in introducing community, political, economic, and vocational civics courses, national activities, and the economic and social history of the United States, curriculum making has been organized, for the most part, about the limited scope of separate school subjects and not about the larger question of "how people live together."

These four approaches have been made recently to determine objectively the major problems of contemporary life:

1. Extensive summarization of opinions of representative laymen.

2. Careful analysis of all political platforms over a long period of years, in the thought that they would reflect the issues that confront society.

3. Listing of all topics mentioned in many issues of a large number of newspapers, magazines dealing with current events, and the *Reader's Guide to Periodical Literature*, in the belief that they "mirror" what man is thinking about and what he has to deal with.

4. Detailed analysis of writings of "frontier thinkers," scholars who have spent years in both theoretical and practical study of America's problems and hence are qualified to state significant issues and difficulties of political and social life.

¹ *Social Studies for Grades VII, VIII and IX*, Curriculum Bulletin No. 13, Board of Education, St. Louis, Mo., 1926, p. 11.

² See: The Fourteenth, Fifteenth, Sixteenth, Seventeenth, Nineteenth, Twentieth, and particularly the Twenty-Second Yearbook of the National Society for the Study of Education, Public School Publishing Co. Bloomington, Ill.

CHART V*

RECOMMENDATIONS MADE BY OUTSTANDING COMMITTEES
RELATIVE TO THE SOCIAL STUDIES, GRADES 6-9¹

Name of Committee	Date	Membership of Committee	Sixth Grade	Seventh Grade	Eighth Grade	Ninth Grade
Committee of Ten N. E. A. ² A. H. A. ³	1892 1894	7 Professors 3 Principals	Biography and Mythology	American History and Civil Government	Greek and Roman History with Oriental Connections	French History with background of Medieval and Modern History
Committee of Seven A. H. A.	1896 1899	6 Professors 1 Principal	Medieval and Modern History	English History	American History	Ancient History to 800
Course suggested by one member of the committee, Grades 3-8						
Committee of Eight A. H. A.	1905 1909	4 Professors 2 Supt's. 2 Teachers	European Background	Early American History, 1500-1789. Still more Civics	Later American History, 1789-1909. Civics. (Also some emphasis on Modern European History)	
(.....3-Year Cycle.....)						
Committee of Five	1907 1912	4 Professors 1 Principal	High School Only—Grades 9-12			Ancient History to 800 (Econ. Pol. and Soc.)
Social Studies Committee N. E. A.	1914 1916	5 Professors 2 Supt's. 10 Teachers 4 Unclassified		Geography, European History, and Community Civics	American History, Community Civics and Geography Incidentally	Political, Economic and Vocational Civics with History Incidentally
Committee of Seven A. P. A. ⁴	1911 1916	6 Professors 1 Supt.	A study of simple community activities. Little textbook work (Grades 4-6)	Community Civics (emphasis upon functions but some treatment of the machinery of government.)		
Committee on History and Education for Citizenship A. H. A. N. E. A.	1918 1921	6 Professors of History 1 Professor of Education 1 Supt. 1 Teacher	The Making of the United States (Grades 3-6). The United States 1877 to date $\frac{1}{2}$ year; civics, $\frac{1}{2}$ year	American History in its World Setting		
				The World before 1607 (including Spain in America)	The World since 1607 with emphasis on Economic and Social History of the United States	Community and Nat'l Activities including (commercial geography) civics, social and economic history
¹ Adapted from <i>Twenty-Sixth Yearbook, Part I</i> , National Society for the Study of Education, Public School Publishing Company, Bloomington, Ill., 1926, pp. 48-49.						
² National Education Association. ³ American Historical Association. ⁴ American Political Science Association.						

* The following bibliography includes the seven committee reports referred to in the above chart.

1. National Education Association, *Report of the Committee of Ten on Secondary School Studies with Reports of the Conferences Arranged by the Committee*. American Book Company, New York, 1894.
2. American Historical Association, *Report of the Committee of Seven on the Study of History in Secondary Schools*. The Macmillan Company, New York, 1899.
3. American Historical Association, *Report of the Committee of Eight on the Study of History in the Elementary Schools*. Charles Scribner's Sons, New York, 1909.
4. American Historical Association, *Report of the Committee of Five on the Study of History in Secondary Schools*. The Macmillan Company, New York, 1912.
5. National Education Association, Committee on Social Studies of the Commission on the Reorganization of Secondary Education, *Report on the Social Studies in Secondary Education*, Bulletin 28, 1916, U. S. Bureau of Education, Washington, D. C., 1916.
6. American Political Science Association, *Report on the Teaching of Government*. The Macmillan Company, N. Y., 1916.
7. American Historical Association and the National Education Association, "Reports of a Joint Committee on History and Education for Citizenship," *The Historical Outlook*, Vol. X, pp. 273-281; Vol. XI, pp. 78-83, 111-115; and Vol. XII, pp. 87-98, 119-143, 165-184, and 208-218.

In the fourteen studies of common facts and skills, reported in the *Third* and *Fifth Yearbooks* of the Department of Superintendence, these four approaches were used:

1. Samplings of periodical literature to determine with what historical events and geographical locations readers must be familiar to read understandingly.
2. Analysis of books and encyclopedia articles as criteria for determining persons, dates, place, location, and facts of greatest relative importance.
3. Combined judgments of scholars as to common essentials.
4. Combination of criteria such as population, trade, bank clearings, area, frequency of use by "frontier thinkers" in critical magazines and books, and number of articles in all important magazines to determine relative importance of map locations, such as countries, cities, islands, rivers, and other bodies of water.

These studies are based on the theory that one can determine objectively the facts in the social studies that are likely to be most needed in life. Since the number of specific known facts increases each year, the selection of minimal essentials becomes increasingly important. The itemized knowledges, skills, abilities, and traits, ascertained by objective study to be of greatest common value, have primary justification in a reorganized social studies program.

After having selected those materials which apparently have greatest social value, they must be so organized that they will be in harmony with the laws of learning and develop new outlets for the energy of adolescent youth.

Good citizenship is an attitude of mind which makes for right living in an organized society. Fortunately, teachers are learning that attitudes of mind are not of spontaneous origin; they result from vivid experiences.

Time allotted to the social studies in the junior high school—The composite programs of studies presented on pages 22 and 23 and based on practices in 139 junior high schools show that on the average seven periods per week are devoted to the social studies in the 7th grade; six periods, in the 8th grade; and five periods, in the 9th grade. With the exception of English, no other required subject in the junior high school is allotted this

much time. In other words, there is a tendency today to make the social subjects the center of the junior high school curriculum. In the more progressive junior high schools, provision is also made for related activities, such as student councils, assemblies, and clubs—activities which reproduce life situations within the school. By this means, "reading" courses in citizenship are supplemented with a variety of student activities which aid in the interpretation of the larger communities of city, state, and nation—even the world itself—in terms of wider human relationships.

What traits are essential to efficient citizenship? In the *Third*¹ and *Fifth Yearbooks*² of the Department of Superintendence, six research studies presenting objective data in answer to this question are reviewed. Space permits mention here of only one, an analysis by Bobbitt of eighteen books of essays for the purpose of discovering socially approved activities and characteristics of human behavior. These were the six qualities of human conduct which were mentioned with approval most frequently in the eighteen books:

Obedience to standards of virtue.
Acceptance of the world's highest valuations.
Friendly attitudes, feelings, and reactions.
Courtesy, graciousness, magnanimity.
Vision, intelligence, alertness, wisdom.
Original, not second hand, vision.

What are the strong points and weaknesses of social studies textbooks? According to Earle U. Rugg³ these general interpretations can be drawn from the investigations which have been made of the content of social studies textbooks:

1. The textbooks are as a rule rather compact, logical, systematic, and comprehensive treatments of a given field of subject-matter. They are veritable encyclopedias.
2. On the whole they are fairly accurate and scholarly and attempt to give the truth.
3. By virtue of their organization most of the social studies texts are little more than an amplification of syllabi suggested by national committees, organized in more readable form. They should be used merely as manuals or outlines and supplemented with wide and varied collateral reading to make the generalizations understandable to pupils.

¹ Department of Superintendence, *Research in Constructing the Elementary School Curriculum*, Third Yearbook. National Education Association, Washington, D. C., 1925. Chapter VII.

² Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, Washington, D. C., 1927. Chapter XII.

³ Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook. National Education Association, 1928, p. 295.

4. There are tremendous variations in space treatment of topics in books intended for the same purpose.

History is still the predominant social study; but it has changed from a subject largely military in character to one that emphasizes political history in the senior high school with some attention given to social and economic activities of the past.

According to Dawson books for new "problem" courses vary in emphasis upon political problems from sixty-five to thirteen percent; upon economics from eighty-one to nine percent; and upon social questions from eighty-three to ten percent.

Research in Determining Method

Ten contrasts between old and new methods of teaching social studies—A review of recent course of study bulletins in the field of the social studies reveals these ten contrasts with past procedures; some apply to other subjects as well as to the social studies.

Carefully selected content vs. encyclopedic materials.

Vivid oral presentation vs. book teaching.

Study vs. memorizing.

Discussions and work periods vs. recitations.

Pupil initiative vs. explicit teacher directions.

Pupil incentive or compelling interest vs. merely meeting school requirements.

Learning where and how to find facts vs. trying to learn all facts.

Correlation of subject-matter vs. water-tight compartments.

Vivid, dramatic idea of time, space, and events vs. dull, disconnected facts.

Basis for interpretation of present life vs. lack of discovery of relation of cause and effect.

Social studies made graphic, dramatic, real—A review of recent course of study bulletins shows that the social studies include such pupil activities as these:

1. Dramatizations, pageantry, impersonations.
2. Excursions and imaginary journeys.
3. Construction, handwork.
4. Special reports by pupils on assigned topics.
5. Sandtable representations.
6. Maps, graphs, and posters.
7. Debates.
8. Making relief maps and models.
9. Club organizations.
10. Collecting pictures and illustrative materials.
11. Making notebooks and scrap-books.
12. Arranging holiday programs.
13. Keeping bulletin board up-to-date, current event activities.

14. Games, group drills.

15. Use of stereopticon and motion picture.

What help from standardized tests? In a recent survey, Tryon¹ lists over thirty standardized and new types of tests in the social studies. Certain writers criticize these tests as follows: (1) Many are not as sufficiently standardized for norms from national use as are those dealing with elementary school drill subjects such as spelling and penmanship. (2) Some tests are apparently based upon an assumption that the wide range of present content is socially valuable without reference to objective studies of the facts, skills, and appreciations of the social studies needed most frequently and universally by adults or even pupils in life outside the school. Practically all these tests put the greatest emphasis on factual knowledge.

What are the common learning difficulties which pupils meet in the social studies? An investigation² of difficulties in fifth and seventh grade history shows from actual tests that pupils in these grades fail to comprehend what they read largely because of:

1. Difficult words essential to history comprehension in general, but perhaps unessential in elementary history.

2. Difficult words not essential in history comprehension in general.

3. Long, involved sentences.

4. Abstract thought.

Few tests in the social studies have representative norms. As pointed out in Chapter XIII of the *Sixth Yearbook of the Department of Superintendence*, essay tests and teacher judgments are still predominant in determining pupil accomplishment and diagnosing pupil errors. Osburn's analysis³ of 56,000 examination questions in history showed hundreds of questions of the traditional variety—define, discuss, explain, give, how, outline, who, what, when, where, etc. At least 74 percent of the work in history consists in teaching pupils to remember what the textbook records; and only 26 per cent involves thinking or reflective judgment. But slight attempts are evident to concentrate upon abilities and appreciations pointed out as desirable outcomes in the study of the social sciences.

¹ Tryon, R. M., "Standard and New Type Tests in the Social Studies," *The Historical Outlook*, Vol. 18, pp. 172-178, April, 1927.

² Ayer, A. M., *Some Difficulties in Elementary School History*, Contributions to Education, No. 212. Teachers College, Columbia University.

³ Osburn, W. J., *Are We Making Good at Teaching History?* Public School Publishing Company, Bloomington, Ill., 1926.

Which is more important, factual knowledge or a right attitude of mind? Which is more important—to teach pupils all the facts of the Revolutionary War without regard to the spirit that animated our forefathers, or to have them know less of the facts, but be enthused by the spirit of sacrifice and patriotism?

History is more than a series of events; it is a series of causes and effects. "It is a drama, and the world is the stage. The teacher's concern is the setting of the stage"—to show how the stage was set at different epochs

in the world's history, and how the stage has been set for the act of the drama now being played. How shall the child see in imagination the houses, the people, the industries, the modes of communication and transportation of past ages? How can he visualize the beginnings, the spread, and the later growth of civilization? How can he gain a concept of the part each country and its people have contributed? It cannot be done by questions and answers memorized by the pupil.

Research in Junior High School Science¹

What sciences are taught in the junior high school? Of the subjects in the science group, general science is the one most commonly taught in the junior high school; general biology is second. General science is an attempt to give a unified view and a single interpretation of the phenomena of nature without an attempt to segregate these phenomena into the various compartments of physics, chemistry, botany, and the other specialized sciences.

General science, as a school subject, has been developed almost wholly within the last twenty years. In 1908 it was a curiosity as a high school science, since only about a dozen schools offered such a subject.² Previous to 1910, the various high school sciences were each taught as separate and entirely independent subjects, generally by someone who was familiar with and interested in only one science. There was a distinct need for some unifying course, which would give the pupil a sense of the continuity of the whole field of science, and not an idea that botany, biology, chemistry, and physics dealt with distinct and unrelated fields. While it may be necessary to differentiate these phases of science for purposes of research, it is an entirely different matter when one is dealing with the training of immature minds and is eager to give them a unified view.

General science is coming to be a part of

the core curriculum—The composite programs of studies presented on pages 22 and 23 and based on 139 junior high school programs show that there is a tendency to make general science a required subject in the eighth grade. It is more frequently offered as an elective in the ninth grade than in the seventh.

Extent to which investigations in the teaching of science have been summarized—Forty-four learning and curriculum research studies in the field of science are summarized in the Fifth and Sixth Yearbooks of the Department of Superintendence; seventy are reviewed by Curtis in his *Investigations in the Teaching of Science*. Space permits only brief mention here of some of the major findings of certain studies.

What are the aims of junior high school science teaching? According to J. W. Jackson,³ the nine aims most frequently mentioned in 169 sources—books, courses of study, and magazines—are these:

<i>Aims of Science Teaching</i>	<i>Frequency of Mention</i>
Choice of and efficiency in a vocation.....	114
Health	111
To understand one's environment.....	93
A knowledge of life activities.....	92
Good citizenship	73
Ethical character	35
Worthy home membership	28
Wise use of leisure.....	28
Skill in the scientific method.....	8

¹ The reader is urged to consult the following references for more detailed bibliographies and summaries of curriculum and learning research studies in science:

Department of Superintendence, *Research in Constructing the Elementary School Curriculum*, Third Yearbook. National Education Association, Washington, D. C., Chapter IX, pp. 297-302, 1925.

Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, Washington, D. C., Chapter IX, 1927.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook. National Education Association, Washington, D. C., Chapter XVI, 1928.

Curtis, Francis D., *A Digest of Investigations of the Teaching of Science in the Elementary and Secondary Schools*. P. Blakiston's Son & Co., Philadelphia, 1926.

Glenn, Earl R., *Bibliography on Science Teaching in Secondary Schools*, U. S. Bureau of Education, Bulletin, No. 13, 1925. Government Printing Office, Washington, D. C.

² Frank, J. O., *How to Teach General Science*. Castle-Pierce Press, Oshkosh, 1925, p. 15.

³ See *Fifth Yearbook*, Department of Superintendence, National Education Association, p. 149.

This Bulletin raises the question as to the validity of the above aims of junior high school science teaching. The most important thing that should result from the teaching of science is barely mentioned—namely, insight into methods of investigation and thinking upon which modern advance is based. Science teaching should point out the preponderant place which an unbiased search for facts has in the real solution of present-day problems, as opposed to the older procedure where facts were twisted to bolster up preconceived notions. The scientific method requires that people observe, reflect, and compare before drawing conclusions. One of the chief aims of science teaching should be to train pupils to use the scientific method in the solution of all their problems.

How can scientific facts be presented so as to make the greatest appeal to junior high school pupils? Many teachers feel that the adolescent age is an age of hero-worship and that the science course is best presented largely in terms of biographies. They maintain that the discoveries of great scientists, illustrations of their methods of work, their devotion to the search for truth, their sacrifices, and their triumphs, all bring vividly to the pupil an appreciation of what the development of science has cost the race and an understanding of the scientific attitude of mind along with a desire to make it his own.

Local geography, chief industries of the community, and special interests of pupils all help to determine what shall be the dominating themes of the general science course. The following are suggested by the Junior High School Science Committee of the Fifth Year-book of the Department of Superintendence: For the seventh year, a study of plant and animal life; for the eighth year, the maintenance and upbuilding of individual and community health; and for the ninth year, sources of material and energy and the transformation and uses of both.

Learning Studies

Value of project teaching in junior high school science as compared with traditional types of teaching. Experimenters¹ to date re-

port that project teaching is superior to traditional types of teaching in that it insures attainment of more aims, gives a greater possibility of learning in general, insures increased expenditure of effort on the part of pupils, develops greater initiative and independence, gives greater opportunity for "socialization," teaches pupils to think for themselves, and develops the problem-solving attitude, encourages a wider range of reading, provides better for the needs of pupils of varying capacities, and provides better opportunities for real and genuine teaching and for teacher growth.

Why the junior high school needs a general science library as well as a laboratory— A study² was made with eighth and ninth grade pupils to determine whether extensive reading of general science increases the amount of knowledge of scientific facts and principles when the extensive reading is given as an extra course outside of the regularly scheduled program of studies, when substituted for part of the work usually required in a general science course, and when given in addition to all the regularly required work. Two libraries of about 40 books each were selected from 347 scientific books, none of them textbooks, and all widely variant in subject, treatment, style, and reading difficulty. Each book was expected to contribute in some degree to the satisfaction of the interests of children and adults, to the training needed for a reading of science in newspapers, and to afford some training in scientific attitudes. Special effort was made to stimulate in all possible ways the *voluntary* and extensive reading of these books. After several months of careful observation and checking, the experimenter came to these conclusions:

1. Extensive reading functions in adding to the pupil's achievement in general science, whether this reading be done entirely apart from any course in general science, or as an integral or a supplementary part of the regular course in general science.
2. Pupils given proper encouragement and access to suitable books and magazines will read a great amount of scientific literature for recreation along with their regular school work.
3. An effective means of providing for individ-

¹ See: Watkins, Ralph Knupp, "The Technic and Value of Project Teaching in General Science", *General Science Quarterly*, Vol. VII, May, 1923, pp. 235-256; and Vol. VIII, Nov., 1923, pp. 311-341, and Feb., 1924, pp. 387-442.
² Curtis, Francis D., *Some Values Derived from Extensive Reading of General Science*, Contributions to Education No. 163, Teachers College, Columbia University, 1924.

ual and sex differences in the general science course is through extensive reading.

4. Extensive reading of scientific literature stimulates the desire of some pupils to proceed further with the study of science in school.

*Children's interests as a basis of what to teach in general science*¹—Eighth grade children in Columbus, Ohio, were asked to make a list of no more than five things or questions relating to science in which they were most interested. The 3500 questions listed indicated 119 interests. The twenty of greatest frequency of mention were: Electricity, stars, radio, heat, lightning, planets, moon, sun, Mars, plants, wind, gravity, air, aeroplane, earth, light, sound, gas, rotation, clouds, and bacteria.

A comparison of this interest list with the topics in 15 general science textbooks, showed that the amount of overlapping varied from 21 percent to 64 percent. As a result these recommendations were made:

The teacher should tie himself to no particular textbook in mapping out a course in general science. Let the children's interest list direct the way. Have the text which contributes most to the interests of the pupils in the foreground and use for references the others which have stressed and

developed the special environment. Supplement these with carefully selected readings and references.

A similar study² of children's scientific interests was made in six high schools in Oregon, three in New York City, and one in Oklahoma. There is a striking similarity between the 20 most important scientific interests of children as shown by these two studies.

What materials should be offered in general science in the seventh and eighth grades, and what methods of presentation should be used? A questionnaire study³ summarizing the opinion of 53 science teachers in 29 states reveals these tendencies:

1. Science material for the seventh and eighth grades should be organized around problems of everyday life.

2. The ordinary boundary lines of the sciences may be disregarded.

3. There is great variation in methods used by teachers in presenting exercises. The method depends to a large extent upon the nature of the problem.

4. While teachers seem to prefer the demonstration to the individual method, their comments indicate that practice is governed in many cases by circumstances rather than by needs of children.

Research in Junior High School English⁴

What are the trends in junior high school English? According to the *Fifth Yearbook*⁵ Committee on Junior High School English of the Department of Superintendence, there is a marked tendency to extend the scope of the English course far beyond its original limits. Dictionary use, penmanship, journalism, li-

brary methods, voice culture, debating, and dramatics are now included in the courses of study in English in many junior high schools.

Many schools are conducting experiments for the purpose of establishing a technic whereby the burden of responsibility for teaching correct English expression may be more

¹ See article by C. A. Pollock in *Ohio State University, Educational Research Bulletin*, January 9, 1924, Vol. III, No. 1, pp. 3-6.

² Curtis, Frances D., *Some Values Derived from Extensive Reading of General Science*, Contributions to Education, No. 163. New York, Teachers College, Columbia University, 1924.

³ Meier, Lois, "Current Practices in the Teaching of Science in the Seventh and Eighth Grades," *General Science Quarterly*, Nov., 1924, Vol. IX, pp. 1-7.

⁴ Those who desire more detailed information should consult the following publications:

Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, Washington, D. C., 1927, Chapter IX.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook. National Educational Association, Washington, D. C., 1928, Chapter XIV.

Department of Superintendence, *Research in Constructing the Elementary School Curriculum*, Third Yearbook. National Educational Association, Washington, D. C., 1925, Chapters IV, V, VI, and VIII.

Gray, William S., *Summary of Investigations Relating to Reading*, University of Chicago, Supplementary Educational Monographs, No. 28, 1925.

Gray, William S., Chairman, Report of the National Committee on Reading, Part I, *The Twenty-Fourth Yearbook of the National Society for the Study of Education*. Public School Publishing Co., Bloomington, Ill., 1925.

Jordan, A. M., *Children's Interests in Reading*. University of North Carolina Press, 1926. 103 p.

National Education Association and National Council of Teachers of English, *Reorganization of English in Secondary Schools*. Report by the National Joint Committee on English Representing the Commission on the Reorganization of Secondary Education, James F. Hosis, Chairman, U. S. Bureau of Education, Washington, D. C., 1917.

Pendleton, Charles S., *The Social Objectives of School English*. Nashville, Tenn., (Published by the author), 1924.

Stroh, M. Margaret, *Literature for Grades VII, VIII, and IX*, Teachers College Contributions to Education, No. 232. Bureau of Publications, Teachers College, Columbia University, New York City.

Uhl, Willis L., *The Materials of Reading, Their Selection and Organization*. New York, Silver, Burdett and Company, 1924.

Washburne, Carleton, and Vogel, Mabel, *Winnetka Graded Booklist*. Revised Edition. Rand, McNally, 1927.

Willing, Matthew H., *Valid Diagnosis in High-School Composition*. New York, Bureau of Publications, Teachers College, Columbia University, 1926.

⁵ Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, Washington, D. C., Chapter IX, pp. 87-146.

widely distributed. It has become apparent that no one department can bear this burden alone.

According to this Committee, some specific trends are these:

A. In the language-composition group:

1. The time-allotment given to the language-composition group of studies is equal to that given to the reading-literature group.
2. Oral composition is not only an adjunct to written composition, but it is also an end in itself.
3. Written composition should usually be short.
4. Emphasis is given to letter writing as a socially valuable form of written composition.
5. There is definiteness of prescription relating to the mechanics of written composition.
6. There is an elaborate technic for the following: composition assignments; motivation; prevision; first draft; revision; correction; measurement; and preservation (filing).
7. Assignments of composition subjects are usually drawn from the life and the experiences of pupils.
8. The work is motivated by means of the audience situation and purposeful activities.
9. Pupils participate in the correction of their written work.
10. Written composition which is merely reproductive or analytical is minimized.
11. Grammar and rhetoric are useful only as they contribute to correct and adequate expression.
12. Numerous devices are given for the extension and the mastery of vocabulary.
13. The basic spelling list contains only words in common use. Pupil- and class-lists of words supplement this basic list.
14. Projects are frequently made the basis for oral and written composition.
15. There is full recognition of the value of wholesome extra-curriculum activities.
16. Subjects for oral composition are taken as frequently as possible from the work of other school departments or from extra-curriculum activities; e. g. conversation; telephone calls; sales talks; announcements; anecdotes; addresses at school meetings; discussion at meetings.

B. In the reading-literature group:

1. Instruction in the technic of silent reading is continued and recognition is given to the many different types of silent reading.
2. Oral reading as an adjunct to literary appreciation is continued.
3. Technical analysis of literature is eliminated.
4. Generous provision of reading matter of widely differing types is emphasized. The school library is an essential part of a well-organized school.

5. Recognition is given to the socializing and integrating value of literature.
6. Recognition is given to the ethical value of literature.
7. Emphasis is given to reading for pure enjoyment.
8. Recognition is given to the need for individualized remedial work.

C. In testing and measuring:

There is wide application of modern measurement instruments and technic to all phases of English work. The individual differences revealed by measurement have been made the basis for remedial work and for the attempted reorganization of subject-matter for the use of pupils of different levels of ability.

What should be the content of the junior high school English course? Among the various methods which have been used to determine the content of junior high school English courses are these:

1. *Survey of vocational needs*—Inquiries sent to people in many occupations, asking them to list the uses which they make of languages and their typical difficulties.

The Clapp report¹ shows the frequencies of different language activities from 253 occupational groups, including 2615 people in 300 towns in 35 states. A similar study by Searson is reviewed in the *Third Yearbook of the Department of Superintendence*. These are merely illustrative—other examples can be found in the references cited earlier.

2. *Analysis of prevailing school practice*—Inquiries sent to heads of English departments of high schools and representatives of colleges.

Davis's study in the September, 1926, issue of the *North Central Association Quarterly* cites current English requirements in junior and senior high schools as to credits, recitations per week, length of period, pupil grouping, and relative emphasis on literature, language, oral composition, argumentation, library instruction, outside reading, magazine and newspaper study, and textbooks.

Stroh, in her *Literature for Grades VII, VIII, and IX*, also presents an analysis and discussion of prevailing practice.

3. *Analysis of pupils' themes* to discover their good points and their shortcomings.²

Guiler, in the February, 1926, issue of the *Journal of Educational Method*, reports punctuation and capitalization needs based on a study of 1731 writings from grades two to nine.

¹ "Report of Committee on Place and Function of English in American Life," *English Journal*, Vol. XV, pp. 110-134, February, 1926.

² Several studies are reported in the *Third and Fifth Yearbooks of the Department of Superintendence*, National Education Association, Washington, D. C.

4. *Statistical studies of children's errors in capitalization and sentence structure.*¹

5. *Summary of judgments of teachers and pupils*—Jordan, Stroh, Uhl, Washburne, and Weiser² have all made extensive studies of pupils' interests in reading. The *Winnetka Graded Book-List* includes 700 books on each of which 25 or more children's judgments were secured.

Stroh found that the seven selections which teachers consider most suitable for pupils in grades 7-9 are:

The Man Without a Country
Boys' Life of Theodore Roosevelt
Treasure Island
Tom Sawyer
The Call of the Wild
The Perfect Tribute
Boys' Life of Lincoln

Uhl found that the five most common qualities which make books undesirable for children are: (1) Too mature, (2) hard words, (3) unfamiliar subject-matter, (4) abstract or hard symbolism, and (5) no story, lacks action. On the other hand, among the qualities ranked according to teachers' judgment which make them intrinsically interesting are: Dramatic action—adventure and heroic, interesting action, humor, fairy and supernatural, interesting characters, interesting problems and character study, kindness and faithfulness, animals and personification, dramatization, interesting repetition, and interesting information.

6. *Testing pupils' ability to comprehend certain literary selections*³—Irion found that (a) literary comprehension of ninth-grade pupils can be fairly accurately measured; (b) comprehension varies with literary type—poetic types being most difficult; and (c) literary comprehension correlates to a considerable degree with intelligence and with scores on the Thorndike-McCall Reading Scales.

7. *Analysis of social and business correspondence*—The 10,000 words most com-

monly used in writing and ranked according to frequency of use are included in Ernest Horn's *Basic Writing Vocabulary*, published by the University of Iowa.

Chapter IX of the *Fifth Yearbook of the Department of Superintendence* includes a list of spelling "demons" for the junior high school. In constructing this list two factors were taken into consideration: (1) Frequency with which each word is used in writing done in life outside the school, and (2) the percentage of eighth-grade students who misspell them.

8. *Arranging an environment which sets free the creative spirit of youth*, and helps teachers discover the capacities of youth.

Reports from the Lincoln School⁴ describe the sympathetic understanding with which the members of the teaching staff receive the literary efforts of each pupil. Their philosophy of education does not lead them to set limits to a pupil's achievement at any stage of his growth. It leads them to believe that education is not put on like stucco on a wall, but comes primarily from within. It leads them to receive without question any sincere product, and keeps them from intruding at every stage of growth with a too severe or too unnatural standard of perfection.

While there are certain selections in the world's literary heritage which contribute so much to individual growth and appreciation that they probably should be the common heritage of every child, in selecting the content for junior high school literature courses, we should always remember that children's tastes ought not to be coerced by impressing them with the weight and reputability of opinion concerning what literature is good.

Dorothy Canfield Fisher⁵ in discussing methods of acquainting children with literature, writes: "Don't open the doors for the children. Give them the keys." We are tempted to hurry children's literary appreciations. "We cannot believe it possible that

¹ See articles by S. L. Pressey in the *English Journal*, May and December, 1924; and September, 1925.

² Weiser, A. B., and Ashbaugh, E. J., "What Books Do Junior and Senior High School Students Read?" *Educational Research Bulletin*, Ohio State University, Columbus, Ohio, Vol. III, pp. 223-228, 250-253, and 265-266, September 17 and October 1, 1924.

³ See reference to Jordan, Stroh, Uhl and Washburne, on page 36.

⁴ Irion, Theodore W. H. *Comprehension Difficulties of Ninth-Grade Students in the Study of Literature*. Teachers College, Columbia University, New York City, 1925, 116 p.

⁵ Mearns, Hughes, *Creative Youth*. Garden City, N. Y., Doubleday, Page & Company, 1925, 234 p.

Zachry, Caroline B., *Illustrations of English Work in the Junior High School*. The Lincoln School, Teachers College, Columbia University, New York, Scribners, 1925, 75 p.

⁶ Fisher, Dorothy Canfield, *Introduction to The Girl's Book of Verse*, compiled by Mary Gould Davis. Frederick H. Stokes Co., pp. XVII-XVIII.

there, at least, we cannot help forward the formation of good taste by talking about it, explaining it, analyzing fine poems, teaching literary appreciation in classes, shoving children through the door by main force. And nowhere is it more imperative to keep our hands off."

Hughes Mearns in his *Creative Youth* reports that Willa Cather asked a group of English teachers why the formal side of literature was stressed in the school "at the expense of the sole reason for its value, namely its effect on the mind and the spirit of man." Two of the answers given were these (1). The recognition of the formal side of literature—its arrangement and its organization—is easier to teach, and (2) teachers know nothing else.

*How can drill be made effective?*¹ Drill in capitalization, punctuation, sentence structure, grammatical usage, and diction need carry with it no threat against spontaneous facile written expression. It is effective in the degree that it fulfills the following conditions:

1. Involves socially valid material.
2. Calls for natural reactions.
3. Is systematically and regularly administered.
4. Is enthusiastically administered.
5. Involves pupil self-correction.
6. Is individualized.

Language texts—The conclusions drawn by R. L. Lyman from an analysis² of language texts published since 1920, twelve for junior high school and twelve for upper elementary grades, are these: (a) One-half the space of modern language texts is devoted to grammar; (b) books show wide variation; (c) oral composition is slighted; (d) study helps are beginning to appear; (e) an increasing number of problems is included; (f) little attention is given to objective standards; and (g) there is little difference between the two sets of texts.

Recommendations of Fifth Yearbook³ Committee—The Junior High School English Committee of the Department of Superintendence made these recommendations:

1. Written composition on the junior high school level should be taught primarily for the purpose of giving to pupils an effective instrument of social communication.

2. Oral composition should be taught for its own worthwhile social values and not merely as an adjunct to written composition.

3. Grammar should be taught not as an end in itself but as an aid to correct and effective expression.

4. The basic spelling list should contain only those words which are likely to be used frequently in writing by junior high school pupils. Other words should be added to this list as the needs and the capacities of individual pupils require and permit.

5. Training in the mastery of an extensive vocabulary should be given by all teachers, not merely by the teachers of English.

6. The reading abilities of all junior high school pupils should be measured carefully and frequently so that adequate provisions may be made for meeting the individual needs which these measurements reveal.

7. The literature which is read by junior high school pupils should be extensive, varied, humanizing, and uplifting. Adult standards should not ignore the interests and the limitations of youth.

8. All sorts of social situations should be used to motivate oral and written expression. The normal procedures of the classroom, extra-curricular activities, dramatics, amateur journalism, and the like are rich in opportunity for teaching English effectively.

9. There should be a clear delimitation of the functions of the teacher of English so that he may not be expected to achieve the impossible.

10. The laboratory method of teaching should replace the conventional recitation. The aim should be to provide a situation in which pupils are amply supplied with all kinds of material; a situation in which they work singly or in groups as occasion may suggest; make progress at their own rate; check the results of their achievement; contribute to the social welfare of their group or of others outside of the group as their opportunities and abilities may permit; and find satisfaction and growth in the creative performance of tasks intrinsically worthwhile.

11. A library in charge of a trained librarian is essential to a well-organized junior high school. In this library pupils should read freely and widely books of their own choosing. Here they should find the opportunity and the stimulus for intellectual growth and for enrichment of spirit.

12. All teachers in the school should have a share in the task of teaching correct and effective English expression. Only through the cooperation of all members of the staff can any school maintain the social requirements of good usage.

¹ In this connection see: O'Rourke, L. J., *Self-Aids in the Essentials of Grammatical Usage*. Washington, D. C., Educational and Personnel Publishing Company, 1927.

² See: Lyman, R. L., "A Study of Twenty-four Recent Seventh and Eighth Grade Language Texts," *Elementary School Journal*, Vol. XXIV, pp. 440-452, February, 1924.

³ Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, Washington, D. C., 1927, Chapter IX.

Research in Junior High School Mathematics¹

The composite program of junior high school subjects on page 23 shows that mathematics is taught five periods a week as a required subject in grades seven, eight, and nine. Even in 13 out of 31 programs of studies in junior high schools having an enrollment of over 1000 pupils, mathematics was found to be a required subject in the ninth grade.

What are the valid aims or objectives of mathematics in the junior high school? According to Clark² the major aims are:

1. To help pupils think quantitatively about the problems of the home, the store, the bank, etc.—to develop dependable habits of computation.
2. To develop an understanding of the simple, generally used, facts and processes of business practice.
3. To develop an understanding of the properties of common space forms and relations, together with the development of the ability to solve the more practical problems pertaining to these forms.
4. To emphasize the notion of relationship between quantities that change together according to some mathematical law. To teach pupils to think in terms of mathematical law, to use its language or notation, and to develop some facility in applying, and discovering, wherever possible, these laws in the solution of problems.

This "function concept" is illustrated by the relationship between distance (in feet) and the time (in seconds) in the case of a falling body. Other illustrations are the relationship that exists between amount of interest and rate, time and principal; the volume of a gas is inversely proportional to the pressure to which it is subjected, etc.

What to teach in junior high school mathematics—The best evidence of the present trend or trends of "what to teach" is furnished by a survey of the contents of recent mathematics texts, prepared for junior high schools. C. L. Thiele³ found in his analysis of four recent texts that authors differ widely as to what constitutes a junior high school mathematics program. In the "mathematical" type of text, the majority of the chapter headings read: How to Construct, Measure, and Use Angles"; "Geometric Forms"; "How to Find Areas and Perimeters of Plane Figures"; "How to Find Volumes and Surfaces of Solids"; "Finding Inaccessible Distances"; and "Positive and Negative Numbers in Mathematics."

In the so-called "social" type of junior high school mathematics texts, chapter headings such as these appear more frequently: "Simple Accounts and Business Forms"; "Banks and Banking"; "The Meaning and Nature of Insurance"; "How our Food is Produced and Distributed"; "Keeping Household Accounts"; "What the Investigator Should Know about Stocks and Bonds"; "How our Taxes Are Collected and Used"; "The Cost of an Education"; and "Clothing the Family."

These chapter headings in the so-called "mathematical" and "social" types of junior high school mathematics texts reveal radically

¹ For more detailed information the reader is urged to consult:

Department of Superintendence, *Research in Constructing the Elementary School Curriculum*, Third Yearbook. National Education Association, Washington, D. C., 1925, Chapter III.

Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, Washington, D. C., 1927, Chapter XI.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook. National Education Association, Washington, D. C., 1928, Chapter XV.

Bobbitt, Franklin, *Curriculum Investigations*, Supplementary Educational Monographs, No. 31, 1926. University of Chicago Press, Chicago, Ill., Chapter XIII.

Buswell, Guy Thomas, *Summary of Educational Investigations Relating to Arithmetic*, Supplementary Educational Monographs, No. 27. University of Chicago Press, Chicago, Ill., 1925. 212 p.

Judd, Charles Hubbard, *Psychological Analysis of the Fundamentals of Arithmetic*, Supplementary Educational Monographs, No. 32. University of Chicago, Chicago, Ill., 1927. 121 p.

National Committee on Mathematical Requirements, *The Reorganization of Mathematics in Secondary Education*, Bulletin, 1921, No. 32, U. S. Bureau of Education.

National Council of Teachers of Mathematics, *A General Survey of Progress in the Last Twenty-Five Years*, The First Yearbook. Charles M. Austin, Oak Park and River Forest Township High School, Oak Park, Ill., 1926.

National Council of Teachers of Mathematics, *Curriculum Problems in Teaching Mathematics*, The Second Yearbook. Bureau of Publications, Teachers College, Columbia University, 525 West 120th St., New York City.

Reeve, W. D., *A Diagnostic Study of the Teaching Problems in High-School Mathematics*. Ginn and Company, Boston, 1926.

Schorling, Raleigh, *A Tentative List of Objectives in the Teaching of Junior High School Mathematics*, With Investigations for the Determining of Their Validity. George Wahr, Publisher, Ann Arbor, Mich., 1925. 137 p.

Thorndike, E. L., and others, *The Psychology of Algebra*. The Macmillan Company, New York, 1923.

Wilson, Guy M., *What Arithmetic Shall We Teach?* Houghton Mifflin Company, Boston, 1926.

² Clark, John R., "Mathematics in the Junior High School," *Teachers College Record*, Vol. XXVIII, No. 4, December 1926, pp. 360-373.

³ The National Council of Teachers of Mathematics, *Curriculum Problems in Teaching Mathematics*, Second Yearbook. Bureau of Publications, Teachers College, Columbia University, New York City, pp. 154-172.

opposing viewpoints. Whether the acceptance of one necessitates the rejection of the other—or whether both should be at least partially accepted is a question which those charged with building junior high school mathematics courses will have to decide.

What should be the bases for revising junior high school mathematics? According to Barber,¹ a revision of the course of study in mathematics may have its basis in a study of the mathematics itself, or in a study of the community's use for mathematics, or, more important still, in a study of the child.

The study of the mathematics itself aims to bring about its division into convenient units of instruction and to exhibit in an effective way the relation of its parts. The study of the life of the community and the mathematics it uses points the way to a practical mathematics. The study of the child leads to this question, What mathematics is best suited to his needs—his needs for subsequent use and enjoyment; but more emphatically, what he needs for the immediate development of his mind?

Arrangement of topics—The strictly logical arrangement of teaching units in mathematics is giving way to the social and psychological. Hence, no hard and fast lines can or should be laid down. General mathematics is an introductory course in arithmetic, and the larger, more fundamental aspects of algebra, geometry, and trigonometry organized around pupils' needs.

The following is merely illustrative of one form of organization of content in the junior high school mathematics course:

Seventh grade: Applied arithmetic and intuitive geometry.

Eighth grade: Applied arithmetic, intuitive geometry, numerical trigonometry, simple equations, formulas, and the interpretation of tabular and graphic data.

Ninth grade: The essentials of algebra through quadratics, commercial arithmetic, or a general review of basic material for special groups.

Tenth grade: Plane geometry.

What is intuitive geometry? Intuitive geometry, according to Clark² is a study of the properties of space by investigation and experiment. It is a laboratory subject. Pupils

measure, make inferences, and check up these inferences. They learn to use the methods of science. In these respects, intuitive geometry is unlike both the mensuration of the older arithmetics and the demonstrative or logical geometry of Euclid. It teaches pupils to measure length, area, and volume; to classify geometric forms, to construct many geometrical figures and designs; and to appreciate the wide role of geometry in art, furniture, clothing, architecture, and nature. Intuitive geometry is an ideal preparation for demonstrative geometry.

Bases for selecting junior high school mathematics texts—According to Pieters³ at least fifteen series of mathematics textbooks written especially for the three-year junior high school are available. He suggests that these questions be asked by those who would evaluate a junior high school mathematics text: What are the educational theories that are manifest throughout the work? Is its essence growth and expansion of child life? How does the book appear in the light of the new education? Pieters suggests the following principles in answer to these questions:

1. The controlling theory in the teaching of mathematics in the seventh, eighth, and ninth grades is to stimulate the mental growth of the pupils through efforts to understand, to appreciate, and to act in accord with the interrelation of all human interests.

2. Pupil initiative and activity are basic to present and permanent interest.

3. The general values to be realized through the teaching of mathematics in the junior high school are utilitarian, disciplinary, and cultural.

4. Problems, in order to be appropriate from the child's point of view, must be suitable to his capacity and experience and rich in elements of immediate interest.

5. Richness and flexibility or applicability of meanings are dependent upon varied presentation.

6. New principles are more intelligently grasped through a presentation in which the inductive method is predominant.

7. Quantitative and space perception is of vital significance to the child's present and future life.

8. The general meaning and the worth of mathematics are best realized through the interrelated plan of presentation.

What help from standardized tests? Tests adapted to junior high school grades for diag-

¹ Barber, Harry C., *Teaching Junior High School Mathematics*. Boston, Houghton Mifflin Company, 1924, p. 5.

² Clark, John R., "Mathematics in the Junior High School," *Teachers College Record*, Vol. XXVIII, No. 4, December, 1926, pp. 360-373.

³ Pieters, C. E., "Some Bases for the Selection of Junior High-School Textbooks in Mathematics," *Educational Research Bulletin*, Vol. VII, No. 1, Ohio State University, Columbus, Ohio, January 11, 1928.

nosing mathematical ability, reasoning ability, and achievement, speed, and accuracy in algebra and arithmetic are available. This ques-

tion has been answered by several authorities.¹ Their statements may be accepted as a good approach to the study of this problem.

Research in Modern Foreign Languages²

Much of the most valuable research work in the teaching of modern foreign languages has been produced in the past two years through the Modern Foreign Language Study. Through this study a wealth of data has been gathered on all phases of the teaching of modern foreign languages, such as: Course content, enrolment in foreign language high school classes, administration of modern language instruction, post scholastic use of modern languages, prognosis of modern language ability, laboratory studies of the reading of foreign languages, training of secondary school modern language teachers, testing for achievement, and influence of foreign language study on English. A detailed bibliography of the studies made relative to each of the above topics is presented on pages 360-363 of the *Sixth Yearbook* of the Department of Superintendence.

Who should and who should not study a foreign language? The composite programs of studies on pages 22 and 23 show that foreign language is offered as an elective in the majority of junior high schools in grades 8 and 9.

According to the Committee on Foreign Languages in the Junior High School, which reported in the *Fifth Yearbook* of the Department of Superintendence, these two groups of children should be encouraged to study foreign language:

1. Those whose previous work and personal qualities lead the adviser to believe that they will find in it "spontaneous joyous adventure."

2. Those whose probable future will make a foreign language useful in social or business relations.

The experience of some cities indicates that from forty to fifty percent of the pupils may profitably take up foreign language study in grades 7 or 8. Others believe that this proportion is too large, and would not advise more than twenty-five percent of all junior high school pupils to study a foreign language.

Wheeler's³ study estimated that the total enrolment in modern language classes of public and private secondary schools in 1925 was 784,352; in Latin, 793,076. This means that approximately 19.35 percent of high school pupils were taking modern language; and 19.57 per cent, Latin.⁴ Courses in Latin are enrolling more high school students than courses in all other foreign languages combined.

Wheeler also found that the percentage of modern language enrolment varies directly and the percentage of Latin enrolment varies inversely with the size of the community. That is, modern languages are an urban subject and Latin enrolment is larger in the rural communities. The foreign language situation in junior high schools varies in different regions. In the Southern, North Central, West Central, and Northwestern regions, Latin is the chief foreign language in junior high schools; in other regions, the modern languages are predominant.

Table 7 shows the percentages of enrolment

¹ Bureau of Cooperative Research, Indiana University, *First Revision of Bibliography on Educational Measurements*. School of Education, Indiana University, Bloomington, Ind., 1925, pp. 4-23.

² National Committee on Mathematical Requirements, *The Reorganization of Mathematics in Secondary Education*. Report of National Committee under the auspices of the Mathematical Association of America. Houghton Mifflin Company, Boston, 1927. Part II, Chapter XIII, Standardized Tests in Mathematics for Secondary Schools, by Clifford Brewster Upton.

Touton, Frank Charles, *Junior-High-School Procedure*. Ginn and Company, Boston, 1926, pp. 344-347.

³ Space permits only the briefest mention here of a few selected studies. For detailed reports of these and additional studies see:

Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook, National Education Association, Washington, D. C., 1927, Chapter XIII.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook, National Education Association, Washington, D. C., 1928, Chapter XVII.

Wheeler, C. A., and others, *Enrolment in Foreign Languages at the Secondary Level*. The Macmillan Company, New York, 1928.

O'Shea, M. V., *The Reading of Modern Foreign Languages*, Bureau of Education, Bulletin, 1927, No. 16.

Buswell, G. T., *A Laboratory Study of the Reading of Modern Foreign Languages*. Publication of the American and Canadian Committees on Modern Languages. The Macmillan Company, New York, 1927.

Stuart, Hugh, *Training of Modern Foreign Language Teachers for the Secondary Schools of the United States*. Teachers College, Columbia University, New York City, 1927.

⁴ Additional monographs prepared by the Modern Foreign Language Study will be published shortly by Macmillan.

⁵ Wheeler, C. A., and others, *Enrolment in Foreign Languages at the Secondary Level*, The Macmillan Company, New York, 1928.

⁶ Total high school enrolment, public and private: 4,053,091. See *Statistics of State School Systems 1925-26*. U. S. Bureau of Education 1927, No. 39, pp. 8 and 48.

of pupils in foreign languages in all public high schools, 1890-1922. This table shows a decided decrease in the percentage of public high school pupils taking Latin and Greek, and an increase in those taking French and Spanish. Wheeler's data show that in 1925 for both private and public high schools less than 20 percent of the total enrolment were taking Latin or any modern foreign language. For public high schools alone this percent is considerably less, since the proportion of pupils in private secondary schools taking foreign languages is considerably larger than in public high schools.¹

What foreign language should be studied first? The case of Latin versus modern language is still on trial. Those in favor of Latin argue that Latin is a better introduction to a modern language, especially to a Romance language, than French or German can possibly be to Latin; traditional American practice has been to begin with Latin; fairly equipped teachers of Latin can be secured in many places where a tolerably competent teacher of a modern language is impossible to find; and that Latin has more influence than any other language in developing good English.

Others believe that the first foreign language studied should be a modern language because in general structure French, German, or Spanish vary less widely than an ancient language from English.

For how long a period do most secondary school pupils study a foreign language? Evidence shows that only sixteen percent of those who begin continue for a third year in modern languages, and seventeen percent in Latin. Under present conditions, the public secondary

school course in foreign languages is a two-year course for the vast majority of beginners even after allowance is made for the unknown number who enter college with two units and who may or may not continue their foreign language study there.

Do pupils who have studied a modern foreign language in high school ever read the language in the original after graduation? O'Shea's² study shows that 69 percent of those who had pursued French for two years in the high school have not read anything in the original since graduation. Sixty percent of those who had studied it for three years and 37 percent of the four-year group have not read anything in the original since graduation. The situation is even less favorable in respect to German. Seventy-nine percent of the two-year group, 74 percent of the three-year group, and 67 percent of the four-year group have read no material since graduation. A still larger percentage of those who pursued Spanish in high school have read nothing in the original since graduation.

What value has a course in general language? Where competent teachers are available, the evidence at hand indicates that an introductory course in general language is of real value. These are among the claims made for such a course: It furnishes a background for language study, a study of English in its relations to other languages, and is a tryout course to guide the pupil in his election of a particular foreign language, or in his decision not to pursue the study of any foreign language.

While the content of general language

TABLE 7.—PERCENTAGES OF ENROLMENT OF PUPILS IN FOREIGN LANGUAGES IN ALL PUBLIC HIGH SCHOOLS, 1890-1922

Year	Latin	Greek	German	French	Spanish
1890.....	34.69	3.05	10.51	5.84	
1895.....	43.97	3.10	11.40	6.52	
1900.....	50.61	2.85	14.33	7.78	
1905.....	50.21	1.47	20.25	9.14	
1910.....	49.05	.75	23.69	9.90	.67
1915.....	37.32	.39	24.39	8.80	2.39
1922.....	27.52	.09	.65	15.46	11.26

Data taken from U. S. Bureau of Education, *Biennial Survey of Education 1920-22*, Vol. II, p. 578.

¹For detailed information on this point see: Wheeler, C. A., and others, *Enrolment in Foreign Languages at the Secondary Level*. The Macmillan Company, New York, 1928.

²O'Shea, M. V., *The Reading of Modern Foreign Languages*, Bulletin, 1927, No. 16, U. S. Bureau of Education, Washington, D. C., 1927, pp. 27-29.

courses varies in different school systems, it usually includes: (1) The story of the development of language in general, and the origin of English and its relation to other languages; (2) some information as to the history and etymology of our English words and the relation between them and the words of other languages; (3) a foretaste of the study of foreign language, which gives pupils what has been termed a language sense; and (4) a general background of the national customs, home life, civilization, literature, and history of Rome, Germany, France, and Spain.

The general language course is a course *about* foreign languages and the people who speak them rather than a course *in* several foreign languages. It emphasizes content values rather than form values. The success of such a course depends largely upon the teacher's breadth of background and skill and the good judgment with which the content of the general language course is selected and organized.

Are the vocabularies of modern language texts well selected? Up to the present time, individual judgment has been the chief basis for the selection of material contained in modern language texts. The Modern Foreign Language Study is making available word books and idiom lists in French, German, and Spanish based on range and frequency of use. The French¹ and Spanish² lists are based on counts of 850,000 and of 1,200,000 running words respectively, in texts widely representative of the various types of writing. The German³ list represents a count of 10,910,000 running words.

The idiom lists in French⁴ and Spanish⁵ follow the same general technic as the word lists in those languages. Each is based on a count of 800,000 to 1,000,000 running words.

These Word Books and Idiom Lists will undoubtedly help to determine the content of modern foreign language textbooks of the future.

Research in Junior High School Commercial Education ⁶

Four stages of progress—The variety of electives in commercial subjects presented on page 25 illustrates the present experimental character of the junior commerce curriculum. Commercial subjects were the first of the non-college preparatory subjects to be introduced into both the junior and the senior high schools. The sources from which these commercial subjects were drawn (according to the Junior Commerce Curriculum Committee which reported in the Fifth Year-book of the Department of Superintendence) indicate these four stages of progress in junior high school curriculum construction:

1. Certain commercial subjects were pushed down into grades 7, 8, and 9 from the senior high school with little or no change in subject-matter or in the methods of presentation.

2. An attempt was made to make the old academic subjects in the junior high school, such as language, composition, arithmetic, geography, and history, more practical by prefacing the term "commercial" to these subjects and then modifying their content to harmonize with the new name.

3. Courses of study were composed of a diversity of closely related commercial subjects into which were introduced introductory elements of business practices, typewriting, and bookkeeping, along with junior business training and the study of commercial pursuits.

4. In a few junior high schools a fusion or unified course has emerged in which only two, or at most three, distinct commercial subjects appear and these only as units of a whole. These schools have gotten away from a conglomerate of variables and have organized an all-inclusive junior business training course similar in design to general language, general science, and general mathematics.

¹ Vander Beke, George E., Editor, *A French Word List*. To be published by the Modern Foreign Language Study.

² Buchanan, M. A., *A Spanish Word Book*. University of Toronto Press, 1927. 195 p.

³ Morgan, B. Q., and Purin, C. M., *A German Word Book*. Tabulated for frequency on the basis of Kaeding's Häufigkeits Wörterbuch. The Macmillan Company, New York, 1927.

⁴ Cheydleur, F. D., Editor, *A French Idiom List*. To be published by the Modern Foreign Language Study.

⁵ Keniston, Hayward, Editor, *A Spanish Idiom List*. To be published by the Modern Foreign Language Study.

⁶ For more detailed reviews of research studies see:

Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, Washington, D. C., 1927, Chapter XVIII.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook. National Education Association, Washington, D. C., 1928, Chapter XXIII.

Blackstone, E. G., *Research Studies in Commercial Education*, University of Iowa Monograph in Education, First Series, No. 7, July, 1926. 160 p.

What are the general aims of junior business training? These five are frequently quoted:

1. To give to pupils an understanding of those fundamental principles of business which are useful to all persons, whatever their occupations.
2. To inculcate habits of thrift and to teach the means that are available to promote it.
3. To meet a definite and increasing demand for business training in the junior high school without offering advanced types of commercial work to boys and girls too immature to profit by taking them.
4. To fit those who must leave school at the end of the eighth or ninth grade for the kinds of positions that are open to them in business offices.
5. To serve as a try-out course to the end that the pupil may know whether or not he wishes to continue with commercial subjects in the senior high school.¹

According to the report of the Committee on Research in High School Commercial Studies in the *Sixth Yearbook* of the Department of Superintendence, commercial curriculums can have no *specific* objectives except when planned:

- a. In connection with a definite group of pupils.
- b. In relation to definite commercial positions.
- c. In the community in which the curriculums are to be given.

How may we discover what to teach in our local junior commerce courses? These four are among the best sources of information:

1. Analysis of the exact office and store occupations in the community employing a sufficient number of junior beginners to justify a study of the duties and abilities required in these occupations.
2. Survey of the exact positions reached through promotion from these initial positions within a reasonable time after leaving the junior high school.
3. List of the abilities and attitudes commonly expected by employers of those in each of these initial and subsequent positions.²
4. Case studies of the pupils for whom the junior commerce curriculum is planned.

What positions are open to boys and girls 14-16 years of age? Practically all surveys of junior occupations show that these positions may be classified into four groups: Messenger, clerical, selling, and store service.

Each school system will want to discover what proportion of the local junior employees are in each of these four groups, and provide courses of training suitable to each.

*What kinds of work are done by clerical workers in large offices?*³ The answer to this question depends upon the types of offices where clerical workers are employed. Through questionnaires sent to certain office managers and a personal canvass of clerical workers, Nichols found that:

1. With the exception of a relatively small but significant number of office workers, the general clerk still holds sway in the modern office; few confine their activities to a single type of work, or even to a few closely related duties.
2. An adequate clerical training course should be based on duties performed rather than on payroll jobs. There are at least a few fairly well-defined clerical jobs for which training can and should be given.
3. Relatively few office clerks who are doing special types of work for which some skill is needed have gone directly from school to their present positions.
4. Secondary school education is desirable as a preparation for office work.
5. Since non-bookkeeping clerical workers do not do significantly better work because of their training in bookkeeping, it is evident that this subject cannot be relied upon solely to provide preparation for clerical pursuits other than those definitely involving bookkeeping knowledge.
6. Since only ten percent of the 34,513 office workers employed by the firms participating in this study are stenographers, the practice of encouraging nearly all boys and girls who elect commercial work in our secondary schools of all kinds to take shorthand cannot be defended.
7. In employing office workers, business men give the preference to trained people as against untrained applicants.
8. The need for clerical workers who are skilled in the use of various calculating devices is universal.
9. From the standpoint of clerical training, it is clear that not all clerks need extensive courses in business arithmetic, but it is equally clear that the need for short, intensive drill in this subject exists and that present courses in secondary schools should be modified.
10. Practically all office clerks use longhand in their work. Hence the development of high-grade business writing ability should be one of the aims of commercial education.
11. Not all clerical jobs require the same kind or degree of ability in the use of the English

¹ *The Junior High School Curriculum*, Fifth Yearbook, Department of Superintendence. National Education Association, Washington, D. C., 1927, p. 433.

² Reviews of illustrative surveys are included in the *Fifth* and *Sixth Yearbooks* of the Department of Superintendence.

³ For a detailed answer to this question from firms employing 34,513 office workers, see:

Nichols, Frederick G., *A New Conception of Office Practice*. Harvard Bulletins in Education, No. XII. Harvard University Press, Cambridge, Mass., 1927.

language. Obviously, a highly specialized course in fundamental grammar or business correspondence will fail to meet the needs of many clerical workers.

12. Departmentalization and specialization within departments have lessened an office worker's opportunity to "learn the business" through experience. Hence, supplementary business training of the non-skilled type must be provided for those who would advance beyond the clerical level.

13. Evening schools should provide clerical training courses on a strictly unit basis for the benefit of clerks who need special training in one or more kinds of office work as extensive training.

What quality of handwriting is needed by clerical workers? The director of commercial education in the Philadelphia public schools¹ secured 2000 specimens of vocational handwriting from employees in 21 large concerns. Each specimen was rated by twenty different judges. They agreed that while quality 60 of the Ayres Handwriting Scale is acceptable for social correspondence and non-commercial groups, quality 70 should be reached by all who wish to engage in commercial pursuits.

Points to be considered by local course of study committees—These were among the recommendations made by the Junior Com-

merce Curriculum Committee in the *Fifth Yearbook* of the Department of Superintendence. They deserve thoughtful evaluation by committees charged with the building of courses of study.

Commercial subjects should be organized and taught so as to contribute as fully as possible to the broad, general objectives of the junior high school.

The entire commerce curriculum of the junior high school should be fused or unified into a general junior business training course.

The introduction of any commercial subjects in the seventh grade is not recommended except in connection with, and as a part of, the regular basic subjects of this grade.

The junior business training course should be required of all pupils in the eighth grade as a general and exploratory subject.

There should be only two commercial courses in the ninth grade—namely, the junior business training course and two semesters of typewriting. These should be elective.

The courses in the ninth grade should be planned both for drop-outs and to give preparation to the group which will continue the commercial course in the senior high school.

Stenography and bookkeeping should be deferred until the senior high school.

Research in Junior High School Industrial Arts²

Industrial arts in the junior high school are prevocational—Courses in industrial arts in the junior high school are very different from training in an industrial occupation in a vocational school, where courses are organized about a single trade or about groups of trades. In junior high school industrial arts, instruction is organized about certain types of work, the emphasis being placed on general, cultural, and educational values as opposed to specific trade training. The junior high school course in industrial arts is rich in activities which enable the boy to explore his interests and abilities.

Objectives of the manual or industrial arts—These twelve objectives were formulated by

the Committee on Industrial Arts in the Junior High School in the *Fifth Yearbook* of the Department of Superintendence:

1. To develop handiness
2. To promote the immediate carrying over of ideas into action
3. To help, through exploratory courses, in the discovery of special interests and attitudes important for proper educational and vocational guidance
4. To provide a means for developing technical skill
5. To provide a means for imparting technical knowledge
6. To enable the pupil to apply the test of practice to some of his thinking
7. To develop the mind by providing constructive problems, in materials, which demand a vigorous mental reaction

¹ Kirk, John G., "Handwriting Survey to Determine Finishing Standards for the Philadelphia Public Schools," *The Journal of Educational Research*, March-April, 1926.

² For more detailed information see:

Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook, National Education Association, Washington, D. C., 1927, Chapter XVII.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook, National Education Association, Washington, D. C., 1928, Chapter XXII.

Edgerton, A. H., *Industrial Arts and Pre-Vocational Education in Junior High Schools*. Bruce Publishing Co., Milwaukee, Wis., 1922.

Edgerton, A. H., *Findings Related to Industrial Arts Instruction*, University of Wisconsin Press, Madison, Wis., 1928.

National Society for the Study of Education, *Vocational Guidance and Vocational Education for the Industries*, The Twenty-Third Yearbook, Part II. Public School Publishing Company, Bloomington, Ill., 1924, pp. 201-327.

Roberts, William E., *Manual Arts in the Junior High School*, U. S. Bureau of Education, Bulletin, 1924, No. 11, 89 p.

Snedden, David, and Warner, William E., et al., *Reconstruction of Industrial Arts Courses*, with Special Reference to Aims and Objectives in Junior High Schools, Teachers College, Columbia University, 1927.

8. To interest in school work, through the concrete application of theory to practice, those pupils to whom the academic studies do not appeal strongly
9. To create interest in the arts and industries without any reference to their vocational significance
10. To enable the pupil, through the making of minor repairs and the undertaking of minor construction in the home, to contribute to its economic and material upkeep
11. To enable the pupil, through participation in cooperative problems, to perform better his duty as a member of his home, his school, and his country
12. To serve as an introduction to vocational and prevocational training

How determine the content of industrial arts courses? In determining the content of the industrial arts curriculum, as well as that of such subjects as art, music, and home economics, little work has yet been done which can qualify as "scientific research." Studies have been of a practical type, dealing with the formulation of purposes, selecting materials to make courses harmonize with the purposes, and organizing the material selected into usable form for teachers. Little has been attempted by way of evaluation through scientific testing.

The following are suggestive sources of material for junior high school industrial arts courses:

1. A study of the backgrounds, capacity, and probable educational careers of the pupils to be trained.
2. The application of the psychology of interest, which leads to the development of more projects and fewer formal exercises. The making of kites, sailboats, bird houses, radio sets, and many other articles used in connection with pupils' leisure-time activities, and the performing of many production and service jobs found in connection with the home and community life are now commonly accepted practices in junior high school.
3. A community survey of the economic, social, and industrial conditions to determine what courses in industrial arts should be given as prevocational courses. Such a survey should be valuable quite as much for the elimination of certain activities as for the inclusion of other activities.
4. A local advisory committee to work with the school people in formulating courses in industrial arts.

5. An examination of research studies, if such studies can be found, which have to do with the value of certain activities of the industrial arts courses in the junior high schools.
6. A listing of projects in junior high school industrial arts which individual teachers have helped pupils develop.
7. The experience of other cities with industrial arts courses in the junior high school. For example, some cities have abandoned short-unit exploratory courses in industrial arts in the junior high school, on the basis that six, eight, or ten weeks is too short a time for instructors to determine the aptitudes and abilities of pupils. If a study of the experience of many cities shows this basis to be true, it should be carefully considered by cities contemplating the introduction of short-unit exploratory courses.
8. Questionnaire sent to the homes of every boy in the junior and senior high schools of a particular community to determine what activities of repair and construction are being performed in the homes. On the basis of the frequencies thus determined it is believed that a course of study can be developed that will function in meeting the immediate life needs of boys. Certain criteria for the selection and evaluation of this survey material are needed. These were the criteria set up by the Denver junior high school industrial arts committee:¹

1. From the standpoint of the home:
 - a. Frequency of home activities
 - b. Frequency of tool processes
 - c. Economic and social status of the home.
2. From the industrial standpoint:
 - Frequency of adult activities in the community.
3. From the viewpoint of the school situation:
 - a. Child ability
 - b. School facilities—Housing conditions, apparatus, teaching force, supplies, and time.

Current practice in junior high school industrial arts—The composite programs of studies presented on pages 22 and 23 show that industrial arts is a required subject in the seventh and eighth grades and an elective subject in the ninth grade, in the majority of junior high schools. The wide variety of elective topics included under "industrial arts" on page 25 shows that much experimentation is going on. Current practice in junior high school industrial arts is reported in the *Fifth Yearbook* of the Department of Superintendence for 30 cities over 100,000 in population. Accord-

¹ For a complete report of the Denver industrial arts survey, see Research Monograph on Industrial Arts issued by the Department of Curriculum Revision of the Denver Public Schools. A review of this monograph is included in *The Fifth Yearbook*, Department of Superintendence, National Education Association, Washington, D. C., 1927, pp. 412-420.

ing to this report, the length of the short-unit course varies all the way from six to twenty weeks—the median length being ten weeks. Woodwork is given most frequently throughout the junior high schools; printing is second; electricity, third; sheet metal, fourth; and machine shop, fifth.

Art in the Junior High School¹

Changing conceptions as to the purposes of art education—Formerly all children whether talented or not were put through exercises in drawing for the purpose of acquiring skill. Today the major emphasis is upon teaching appreciation of fine quality of design—particularly in those objects and materials which now or in the future the child will need to select, arrange, or contemplate. To help children to know what is appropriate and beautiful, to love that which is beautiful, and to cultivate good taste in selection and arrangement is the primary purpose in the teaching of art in the public schools.

In what ways does the general public use its knowledge of art? Few people are producers of art, but all are consumers. People in all walks of life are called upon to select clothing, homes, and home furnishings. The choices which they make will depend, in part, upon their knowledge of the principles underlying the right use of the three fundamental elements of art; namely, line, mass, and color.

In the past, teachers were sometimes more concerned with securing an exhibit of pretty drawings than they were in creating within pupils the ability to appreciate what is fine, and to make choices based upon this ability.

The making of artists is not the primary purpose of an art course in the junior high school. However, in giving major emphasis to the development of appreciation, one of the duties of art teachers is also to discover and encourage art talent and lay the foundation for the later productive work of the talented few.

The list of elective subjects offered in 139 junior high schools (see page 25) shows that the industrial arts program becomes progressively richer from the seventh to the ninth grade—in fact, twice as many industrial arts subjects are offered in the ninth grade as compared with the seventh.

Creative expression versus imitation—According to the Art Education Committee of the *Sixth Yearbook* of the Department of Superintendence, another significant tendency is that of allowing and encouraging the child to express his ideas, conceptions, and visions freely and in his own way in some art form. This phase of art education, known as creative expression or creative design, includes work in many materials—painting, drawing, sculpture, and design. The progressive teacher lets the child express himself as a child, and leads him through these efforts to an appreciation of the laws which govern all fine expression in terms of the elements of art—line, mass, and color.

The value of creative expression, according to one art teacher² is this:

Through such attempts, crude and unusable as they may seem to us who have lost the vision of the child, beauty as something to be achieved becomes a reality.

The art instructor who grasps the opportunities contained within the present experiences of the pupils to give expression to the creative imagination within, will through such directed child interest develop not just pretty objects, but power; power to again express, perhaps in finer form and in widely different medium; power to choose rightly when choice rather than production is essential.

The course of study in art must be flexible—To a great extent, it should be based upon and guided by children's interests, according to the Art Education Committee of the *Sixth Yearbook* of the Department of Superintendence. For this reason, it is difficult and inadvisable to make a hard and fast art program. This Committee points out that a fully out-

¹ For more detailed information see:

Department of Superintendence, *Research in Constructing the Elementary School Curriculum*, Third Yearbook, National Education Association, Washington, D. C., 1925, Chapter XIII.

Department of Superintendence, *The Junior High School Curriculum*, The Fifth Yearbook, National Education Association, Washington, D. C., 1927, Chapter XV.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook, National Education Association, Washington, D. C., 1928, Chapter XX.

Boas, Belle, *Art in the School*. Garden City, Doubleday, Page & Company, 1924, 128 p.

² Poore, Shirley, "Blind Alleys or Open Roads," *The Journal of the National Education Association*, Vol. XIV, No. 9, December, 1925, pp. 283-284.

lined and tabulated course of study, with every minute assigned and accounted for, may be satisfactory to administrators, but is most difficult for teachers to follow who are earnestly trying to develop sensitive, creative ability in children. When such a plan is followed, the tangible results may satisfy those who ask for accurate and unimaginative productions. The educational gain, however, may be negligible. Art education should lead not only to individual development but should contribute to the social well-being.

Problems in art appreciation—These problems should be organized to lead from children's immediate interests and needs in the home and community, into remote cities and countries.

Roughly, the sequence of topics, according to *Sixth Yearbook* of the Department of Superintendence might be as follows: (1) Dress; (2) home; (3) minor arts, such as textiles, pottery, rugs, and metal-work; (4) local architecture; (5) American architecture; (6) architecture in other countries—styles and periods; (7) painting; and (8) sculpture.

In the art appreciation course children should be given plenty of opportunity to criticize, judge, and select—especially those objects with which they come in contact now or will in later life.

Correlation—Art work presents an opportunity for correlation with most subjects in the curriculum. Correlation, however, should not be carried to a point where art becomes merely the handmaid to other subjects.

General welfare—William McAndrew would have "art taught not for art's sake but art for America's sake." According to him,¹ consideration of others, courtesy, is subserved by a habit of harmonious coloring and suitable design in dress, in the painting and decoration of a house, a fence, an automobile, or a boat. A homelike and hospitable atmosphere about the place in which one lives; the decoration of personal letters with little drawings, colored initial letters, proper spacing and margin; consideration for the enjoyment of others, valentines for children in the hospitals, posters for public service; improvement of conduct satisfactorily advanced by the cultivation of refined taste, enjoyment of pictures, sculpture, architecture—all these contribute to the general welfare. The school intends that the leisure time of its human output shall be helped toward higher and away from lower pleasures. Art exercises and the work of the art teacher may and should be directed away from selfish enjoyment toward an increase of the happiness of others.

Research in Junior High School Music²

The composite programs of studies presented on pages 22 and 23 show that music is a required subject in the seventh and eighth grades and an elective in the ninth grade in the majority of junior high schools.

What constitutes musical talent? According to the Committee on Research in High School Music which reported in the *Sixth Yearbook* of the Department of Superintend-

ence, musical talent is a hierarchy of talents, consisting among other things of many measurable capacities; such as, the sense of pitch, the sense of time, the sense of intensity, sense of rhythm, tonal memory, etc. Persons who are endowed with musical capacities may with proper development become musicians, but it is very unlikely that training and practice in themselves can overcome deficiencies in musical endowment.

¹ See: Department of Superintendence, *The Junior High School Curriculum*, The Fifth Yearbook. National Education Association, Washington, D. C., p. 338.

² See also:

Department of Superintendence, *Research in Constructing the Elementary School Curriculum*, Third Yearbook. National Education Association, Washington, D. C., 1925, Chapter XIV.

Department of Superintendence, *The Nation at Work on the Public School Curriculum*, Fourth Yearbook. National Education Association, Washington, D. C., 1926, Chapter XI.

Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, 1927, Chapter XIV.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook. National Education Association, Washington, D. C., 1928, Chapter XIX.

National Research Council of Music Education, *Report*, Bulletin No. 4, Music Supervisors National Conference. Published by Paul J. Weaver, Editor, Music Supervisors Journal Chapel Hill, North Carolina, 1925.

Dykema, Peter W., "Tests and Measurements in Music Education," *Music Supervisors National Conference, Proceedings*. Paul J. Weaver, Chapel Hill, North Carolina, 1925.

Earhart, Will, *High School Course of Study in Music*, Bulletin No. 9, Department of Curriculum Study and Educational measurement and Research. Pittsburgh Board of Education, Pittsburgh, Pa., 1927.

Vocational and avocational guidance in music—As a result of the wealth of careful investigation in this field,¹ the diagnosis of one's musical talent and the prediction of probable success or failure in the realm of music may be made with considerable degree of reliability. Vocational guidance is primarily concerned with finding and training the artist, and conversely in discouraging the less talented. Avocational guidance, on the other hand, is concerned with the problem of providing everyone with some kind of intelligent instruction in music, which will utilize musical endowments, no matter how meager, and which will result in pleasure and profit.

A survey of junior high school music—The 1925 Report of the National Research Council of Music Education² is divided into these three sections which are of special interest to

all those charged with developing a course of study in music for junior high school pupils:

1. Discussion of the educational theory upon which junior high school courses should be based.
2. Statistical information as to current practice in junior high school music.
3. Outline of a course of study in music "recommended as being in accordance with educational theory and seemingly easily possible in light of current practice."

For a detailed review of this report, as well as a discussion of aims and objectives in teaching junior high school music, problems peculiar to the subject, articulation of junior high school music with elementary school and senior high school, differentiation to fit group and individual needs, and illustrations of current practice, see Chapter XIV of the *Fifth Yearbook* of the Department of Superintendence.

Research in Junior High School Home Economics³

What should junior high school girls gain from a course in home economics?—The Committee on Junior High School Home Economics for the *Fifth Yearbook* of the Department of Superintendence set as their goal the development of:

1. An understanding of the relation of foods, clothing, and home sanitation to health.
2. A sense of personal responsibility to contribute as a member of the family to the general well-being and happiness of the home circle and to assist in home tasks.
3. Ability and dexterity in the manipulation of domestic materials, tools, and machinery.
4. An understanding of individual and home needs and costs, as related to food values and to quality and appearance of materials; some practice in the making of individual and domestic budgets.
5. An appreciation of aesthetic qualities as related to dress, to the furnishing of the girl's own room and her home, and in an elementary way to the use and laying out of yards and grounds.

6. A desire and ability to participate in home activities; both the work and social activities within the family and hospitality activities incident to social contacts with others not belonging to the family.
7. An appreciation of the home as a place in which to spend leisure hours and the gaining of ability to spend such leisure hours in ways that will contribute to the improvement of the individual and the home.

How determine what to include in the junior high school home economics course? The first step is to discover what junior high school girls already know. Then instruction can be based on their needs for supplementary knowledge. The following studies should be made in every local community as a basis for the selection of the content of a course in junior high school home economics:

1. What girls do at home.
2. What they learn at home by observation or "instinctively."

¹ A complete survey and critical evaluation of tests of aptitude, achievement, and appreciation of music is presented by Jacob Kwalwasser in his *Tests and Measurements in Music*. Boston, C. C. Birchard & Co., 1927.

² Presented before Music Supervisors National Conference at its meeting in Kansas City, Missouri, in 1925.

³ Space permits only the briefest mention here of a few studies. For more detailed information see:

Department of Superintendence, *The Junior High School Curriculum*, Fifth Yearbook. National Education Association, Washington, D. C., 1927, Chapter XVI.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook. National Education Association, Washington, D. C., 1928, Chapter XXII.

Dyer, Annie R., and others, *The Placement of Home Economics Content in Junior and Senior High Schools*, Home Economics Curriculum Study I. Teachers College, Columbia University, N. Y., 1927.

Home Economics Curriculum Study, Resulting in Syllabus of Home Economics for the High Schools of Illinois, Home Economics Section of the Illinois High School Conference, University of Illinois, Urbana, Ill., Bulletin XXIV, No. 48, 1927. 93 p.

Hopkins, L. Thomas, and Kinyon, Kate W., *Home Economics*, Research Monograph No. 1, Public Schools, Denver, Colo., 1925. 71 p. See also Course of Study Monograph No. 12—*Home Economics*, Junior High School, Denver Public Schools, Denver, Colo.—which is based on the above Research Monograph.

Trilling, M., Williams, F., and Wellman, M. T., *Girls' Problems in Home Economics*. J. B. Lippincott Company, Philadelphia, 1926.

Whitcomb, Emeline S., and Phillips, Frank M., *Statistical Study of Home Economics in Public High Schools*, U. S. Bureau of Education, Washington, D. C. Study completed, but not yet printed.

3. How they learn—by what method.
4. What they are interested in.
5. What they know before starting on a course.
6. What they should know and be able to apply at the completion of each year of work.
7. What supplementary home practices and knowledge may be acquired at home.
8. Investigation of present-day practices and activities in the home—in various types of homes and communities.

Is a carefully formulated junior high school home economics course, based on the pupil and community needs of one school system, suitable for all school systems? A comparison of the home economics activities of girls and mothers in the city of Denver and in rural communities and small towns of Kansas shows such wide variation that it is impossible to use the same course of study in both places with equal success.¹

There is a marked contrast between the two surveys regarding the relative frequency of purchase and home construction of clothing and household articles. In the rural communities studied 82 percent of the clothing is made in the home; while in the city, the amount of this home sewing is 21 percent. In the rural communities more cooked cereal, home-made bread, and canned fruit is eaten—while in the city more ready-prepared cereal, baker's bread, hot biscuits, and fresh fruit is eaten. The country girls have more care of the younger children in the family and do more laundry work. A great many more adult garments are remade for children in the country than in the city.

How to ascertain the trend of activities in the homes of a particular city—The director of household arts in one city asked all junior and senior high school girls to fill out inquiry blanks consisting of 200 questions on the general topics of personal habits, food habits, girls' responsibilities in the home, clothing, laundry, preparation of foods, finances, and extra activities. These were among the findings:

1. Many meals are eaten outside the home and many foods are purchased already prepared;

this seems to indicate that emphasis should be placed on selection as well as preparation of food.

2. Marketing or buying in its various phases, from the simple errands of the younger girls to banking by the older ones, is general, indicating that much more instructional material of this type is needed.
3. There is great lack of knowledge of finance of any form in the home.
4. Some care of little children is almost universal.
5. Clothing is quite largely purchased readymade, showing that selection rather than construction must be emphasized—there was great lack of knowledge of cost of clothes.
6. A larger number of girls assist with laundry work and less electrical equipment is used than was supposed.
7. Girls do much outside the home—there is need of great emphasis being placed on use of leisure time.

Studies similar to the above might well be made in many communities. They would indicate the shortages of present curriculums in home economics, and also point out those problems which call for study and help from home makers, teachers, and other interested persons, if girls are to be prepared more adequately to solve their problems.

Efforts made to meet individual and community needs through home economics courses: A review² of between fifty and sixty junior high school home economics courses showed that in addition to the usual foods and clothing units, such units as these were offered in one or more junior high schools: Personal hygiene, marketing and shopping, budgeting, house planning, house decoration and furnishing, child feeding and care, home nursing including first aid to the injured, elementary textiles from consumer's standpoint, care and repair of clothing, ethics in shopping, costume designing, millinery, art needlework, craft work, hospitality, higher life in the home, and wise use of leisure.

Trips to stores, factories, canneries, laundries, and bakeries are incorporated as a feature of many of the units of instruction.

¹ Carlisle, Lilybelle Lewin, *A Comparison of the Home Economics Activities of Girls and Mothers in a City and in Rural Communities*. Master's Thesis prepared at the University of Colorado and filed in the library at the University, August, 1926. A detailed review is presented in the *Fifth Yearbook* of the Department of Superintendence, National Education Association, 1927, pp. 367-369.

² See: *The Junior High School Curriculum*, Fifth Yearbook, Department of Superintendence, National Education Association, Washington, D. C., 1927, pp. 380-381.

Research and the Curriculum in Health and Physical Education

Scope and content of the field of health and physical education—Health and Physical Education as an administrative department, according to the *Fourth Yearbook* of the Department of Superintendence,¹ includes logically these three phases: (1) Health service, (2) health education, and (3) physical education. Some feel, however, that physical education can best be administered in a separate department.

Health service includes the various protective measures adopted by the school to conserve and improve the health of children. Among these measures are: Health examinations; the follow-up program and correction of remedial health defects; daily health inspection; school sanitation; first aid and safety provisions; immunization of school children against infections and communicable disease; hygiene of instruction; and health of teachers, janitors or custodians, and other school officials and employees coming in contact with school children.

Health education is the sum of experiences, in school and elsewhere, which favorably influences habits, attitudes, and knowledge relating to individual and community health.

Physical education is the contribution made to the complete education of the child through big brain-muscle activities, including play, games, athletics, gymnastics, dancing, swimming, hiking, scouting activities, and similar programs.

Space permits here of only brief mention of some research findings relative to health and physical education.²

The goals of health education—According to the Committee on Health and Physical Education in Junior and Senior High Schools which reported in the *Sixth Yearbook* of the Department of Superintendence, these are the goals of health education:

1. To establish health habits and standards.
2. To instill a working knowledge of practical facts relating to cleanliness and sanitation, to food, fresh air, rest, exercise, games, sports, and other types of recreation, the causes of preventable diseases, and the means of checking them.
3. To build ideals regarding health, beauty, and service for self, school, and community that will result in better living, including proper use of leisure time.
4. To develop the individual's sense of responsibility, not only for his own health, but for that of the community.

Time devoted to health instruction in the junior high school—The composite programs of studies on pages 22 and 23 show that health instruction is offered three times a week as a required subject in all the junior high school grades. Even in the ninth grade, it is offered as a constant in more programs of studies than is any other subject except English.

*All departments in a secondary school should contribute to health education*³—Many school administrators are convinced that it will never be possible to set aside definitely for health teaching enough of the daily time available for school use so that all the necessary habits may be formed and information acquired concerning health. All school courses must be devised and taught in such a manner as to permit frequent opportunities for correlation with the various parts of the health program. This adds interest not only to health teaching, but to the other subjects. To illustrate, history becomes more real when one realizes the influence of health and disease on the great movements of history.

Health program of the junior high school must take into account individual differences as well as general characteristics of adolescence—In the junior high school, pupils are in the late pubertal and early adolescent period,

¹ Department of Superintendence, *The Nation at Work on the Public School Curriculum*, Fourth Yearbook. National Education Association, Washington, D. C., 1926, Chapter VIII.

² For more detailed information see:

Department of Superintendence, *Research in Constructing the Elementary School Curriculum*, Third Yearbook. National Education Association, Washington, D. C., 1925, Chapter X.

Department of Superintendence, *The Nation at Work on the Public School Curriculum*, Fourth Yearbook. National Education Association, Washington, D. C., 1926, Chapter VIII.

Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook. National Education Association, Washington, D. C., 1928, Chapter XXIV.

Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, *Health Education*. National Education Association, Washington, D. C., 1924. 161 p.

Lerrigo, Marion O., *Health Problem Sources*, Contributions to Education, No. 224. Bureau of Publications, Teachers College, Columbia University, New York City, 1926. 151 p.

Rogers, Frederick R., *Physical Capacity Tests in the Administration of Physical Education*, Contributions to Education, No. 173. Bureau of Publications, Teachers College, Columbia University, New York City, 1925. 93 p.

Wood, Thomas D., and Cassidy, Rosalind F., *The New Physical Education*. New York, The Macmillan Company, 1925. 437 p.

³ See: Department of Superintendence, *The Development of the High School Curriculum*, Sixth Yearbook, National Education Association, Washington, D. C., 1928, p. 470.

with the girls physiologically about a year older than boys of the same age.

The avoidance of overstrain is an essential factor in the care of the junior high school group. The injection into the junior high of the senior high school athletic program—too often an apeing of the less desirable aspects of the college program—is lamentable.

Physical capacity tests¹ are being developed so that individual needs can be met in physical education classes. Without the application of these tests, those whose physical condition and fitness are low are often given the same training as those in perfect condition.

Each pupil should be given a physical examination at the beginning of each semester to discover remedial physical defects. Individual daily or weekly health charts should be kept, since checking up at home and at school is necessary if proper health habits are to become part of the daily life of the child.

Content of courses in health and physical education—The questions which confront the makers of curriculums in health and physical education cannot in any instance be completely and fully answered by available research.² In the meantime, the schools of the country are looking for the best available guidance, relative to immediate health teaching. Two recent reports³ are available which give an authoritative compilation of technical statements and a consensus of professional opinions. All teachers of health and physical education will find these reports of interest.

Mental hygiene—The tendency has been too largely to consider a child as an ensemble of lungs, tonsils, teeth, eyes, feet, and posture with little attention to the child as a whole. One of the hopeful phases of health work is the increasing use by school departments of psychologist and psychiatrist in inaugurating definite mental hygiene programs.

¹ See: Rogers, Frederick Rand, *Physical Capacity Tests in the Administration of Physical Education*, Contributions to Education, No. 173, Bureau of Publications, Teachers College, Columbia University, N. Y., 1925.

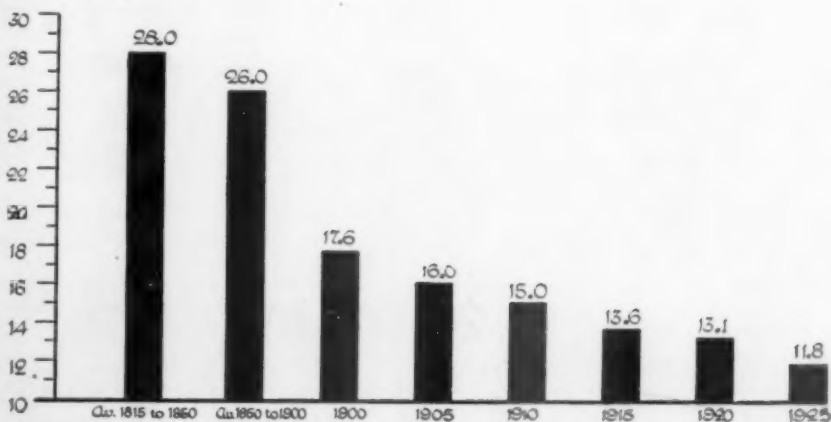
² An intensive evaluation of present practices relative to health education is being made by the American Child Health Association, 370 Seventh Ave., New York, N. Y.

³ Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, *Health Education*, National Education Association, Washington, D. C., 1924. 161 p.
Department of Superintendence, *Sixth Yearbook*, Chapter XXIV, Health and Physical Education in Junior and Senior High Schools, National Education Association, Washington, D. C., 1928.

CHART VI

THE FOUNDATION FOR HEALTHFUL LIVING IS LAID IN THE PUBLIC SCHOOL

Yearly Death Rate
Per 1000 People



“Health as a rule is a purchasable commodity and
the price is education.”

Division of Research
National Education Association

Helpful Books Dealing with Junior High School Problems

Expert Opinion as to Best Books on General Problems of the Junior High School

One of the first steps in an intelligent program of curriculum building for the junior high school is a careful study of the scientific work already completed and a review of the statements of frontier thinkers as to the most practical and forward-looking theories relative to the further development of the junior high school curriculum.

Busy classroom teachers and public school administrators seldom have the time to read all the literature in a particular field. A thoughtful selection of books must be made, in order that they may gain the most help possible from the hours devoted to professional reading. What books dealing with the general problems of the junior high school are most helpful to local course of study committees? Sixteen experts were asked this question. They each submitted a list of six books. Table 8 is a compilation of their

TABLE 8—BOOKS DEALING WITH GENERAL PROBLEMS OF THE JUNIOR HIGH SCHOOL

Title	Author	Publisher	Year of Publication
Junior High School Education.....	Davis, Calvin Olin...	World Book Company....	1924
Junior High School Procedure.....	Touton, Frank Charles, and Struthers, Alice Ball	Ginn and Company.....	1926
The Junior High School.....	Briggs, Thomas H....	Houghton Mifflin Company	1920
The Junior High School.....	Smith, William Austen	The Macmillan Company.	1925
The Junior High School.....	Koos, Leonard V....	Ginn and Company.....	1927
Junior High School Life.....	Thomas-Tindal, Emma V., and Myers, Jessie du Val	The Macmillan Company.	1924
Psychology of the Junior High School Pupil.....	Pechstein, L. A., and McGregor, Anna Laura	Houghton Mifflin Company	1924
The Junior High School at Work.....	Bruner, Herbert Bascom	Teachers' College, Columbia University	1925
Junior High School Practices: a collection of articles dealing with junior high.	Lyman, Rollo L. and Cox, Philip W. L.	Laidlaw Brothers.....	1925
The Junior High School Curriculum.....	Department of Superintendence.	National Education Association.	1927
The Junior High School.....	Bennett, G. Vernon.	Warwick & York.....	1919
The Junior High School Idea.....	Van Denburg, Joseph King.	Henry Holt and Company.	1922
Junior High School Curricula.....	Hines, Harlan Cameron.	The Macmillan Company.	1924
Curriculum Practices in the Junior High School and Grades 5 and 6, Supplementary Educational Monographs No. 25.	Glass, James M.	University of Chicago, Chicago, Ill.	1924
Creative School Control.....	Cox, Philip W. L.	J. B. Lippincott.....	1927
Our Evolving High School Curriculum.....	Davis, Calvin, O.	World Book Company...	1927
A Guide to Educational Measurements.....	Hines, Harlan Cameron.	Houghton Mifflin Company.	1923
The Practice of Teaching in the Secondary School.....	Morrison, Henry Clinton.	University of Chicago Press, Chicago, Ill.	1926
Pupil Adjustment in Junior and Senior High Schools.....	Reavis, William Claude.	D. C. Heath & Co.....	1926
Extra Curricular Activities in Junior and Senior High Schools.	Roemer, Joseph, and Allan, Charles Forrest.	D. C. Heath & Co.....	1926
Ability Grouping in the Junior High School.....	Ryan, Heber Hinds, and Crecelius, Philippine.	Harcourt, Brace.....	1927
Constructive School Discipline.....	Smith, Walter Robinson.	American Book Company.	1924
The Small Junior High School; A Study of its Possibilities and Limitations.	Spalding, F. T.	Harvard University Press.	1927

Among those contributing to the above list were: W. D. Armentrout, Director of Training Schools, Colorado State Teachers College, Greeley, Colo.; Thomas H. Briggs, Professor of Education, Teachers College, Columbia University, New York City, N. Y.; W. H. Bristow, Assistant Director, Secondary Education, Department of Public Instruction, Harrisburg, Pa.; Philip W. L. Cox, Professor of Secondary Education, New York University, New York City, N. Y.; Calvin O. Davis, Professor of Education, University of Michigan, Ann Arbor, Mich.; Jesse B. Davis, Professor of Education, Boston University, Boston, Mass.; Leonard V. Koos, Professor of Secondary Education, University of Minnesota, Minneapolis, Minn.; Jessie D. Myers, Instructor in English, Oliver Wendell Holmes Junior High School, Philadelphia, Pa.; J. Orin Powers, George Washington University, Washington, D. C.; Joseph Roemer, Professor of Secondary Education and High School Visitor, Gainesville, Fla.; William A. Smith, Department of Education, University of California, Southern Branch, Los Angeles, Calif.; Alice Ball Struthers, Principal, Thomas Starr King Junior High School, Los Angeles, Calif.; P. W. Terry, University of North Carolina, Chapel Hill, N. C.; Emma V. Tindal, Principal, Oliver Wendell Holmes Junior High School, Philadelphia, Pa.; Frank C. Touton, Professor of Education, University of Southern California, Los Angeles, Calif.; and Joseph K. Van Denburg, Examiner, Board of Education, New York City, N. Y.

lists. The first ten books in this table were mentioned from sixteen to four times by the sixteen specialists submitting lists as to the six best books on general problems of the junior high school.

Expert Opinion as to Best Books on Junior High School Subjects

After one has clarified his thinking relative to the philosophy of the junior high school—its purposes and the points wherein it differs from an elementary school and a senior high school—his next concern is with the selection of such pupil activities as will aid in the realization of these purposes. In what activities in English, science, and social studies should the junior high school pupil engage? Should the curriculum be organized on the subject basis? If so, what subjects should be included in the junior high school curriculum? What shall be the content of each subject? These are among the questions which those charged with creating a junior high school curriculum must face.

If the curriculum is to be organized on the subject basis, then one of the first steps is to discover what scientific work has already been done in each subject, and what is the consensus of expert opinion as to further desirable development. This is sometimes difficult to discover. Some of this thought, however, is crystallized in the more desirable texts. In response to a special request, the best books in each of the junior high school subjects have been listed by experts. Table 9 is a compilation of their answers. Some contributors listed only two or three books and wrote at length of the difficulty of selecting "six really

helpful books" in their field because of the dearth of distinctive contributions dealing with the junior high school phase of their subject and interpretative of its best practice. The variation in the length of lists relative to the various subjects is probably explained either by: (1) A shortage of books on a particular subject, or (2) by a lack of agreement as to which books are considered most helpful to course of study committees. The books mentioned most frequently head each subject list.

The fact that these books are arranged according to subjects should not lead the reader to infer that the suggestion is made that curriculum content should be organized in "water-tight" subject compartments.

Value of Selected Bibliographies

Since the influences which may have resulted in the choice of particular books are not known, the number of times that any one book is mentioned should not be given too much weight. The fact that some of the books listed are more recent than others, and hence are not so well known, undoubtedly accounts for their not being mentioned more often. It would appear that the total list of books presented in Tables 8 to 10 represent:

1. A recent and reasonably comprehensive list of books dealing with general problems of the junior high school, also those dealing with junior high school subjects, and with school counseling or guidance.

2. A rough indication as to which of these books will be found most helpful to local course of study committees and to local junior and senior high school faculties.

**TABLE 9.—BOOKS DEALING WITH JUNIOR HIGH SCHOOL SUBJECTS
ART EDUCATION**

Title	Author	Publisher	Year of Publication
Art Through the Ages; an Introduction to Its History and Significance.	Gardner, Helen.	Harcourt, Brace and Company.	1926
Art in the School.....	Boas, Belle.....	Doubleday, Page & Company.	1924
The Fine Arts, A Manual.....	Brown, Gerard Baldwin.	J. Murray, London.....	1916
Composition: A Series of Exercises in Art Structure for the use of students and teachers.	Dow, Arthur Wesley.	Doubleday, Page & Company.	1924
Applied Art, Drawing, Painting, Design, and Handicraft; Arranged for Self-Instruction of Teachers, Parents and Students.	Lemos, Pedro Joseph.	Pacific Press Pub. Assn., Mountain View, California.	1920
Enjoyment and Use of Color.....	Sargent, Walter.	Charles Scribner's Sons...	1923
Junior High School Life.....	Thomas-Tindal, Emma V., and Myers, Jessie du Val.	The Macmillan Company.	1925
Organization and Teaching of Art; a Program for Art Education in the Schools.	Winslow, Leon Loyal.	Warwick & York.....	1925
Better Citizenship Through Art Training, a Syllabus for High Schools, Colleges, or Study Clubs.	Beck, Minna McLeod	A. L. McClurg & Co.....	1921
Twelve Great Paintings; Personal Interpretations.....	Bailey, Henry Turner	The Prang Company.....	1913

ART EDUCATION—(Continued)

Title	Author	Publisher	Year of Publication
Applied Drawing.....	Brown, Harold Haven; Hall, James; Izor, Estelle Peel; Watson, Ernest W.; and Ensign, Raymond.	Atkinson, Mentzer & Company, Chicago.	1916
History of Art.....	Carotti, Giulio.....	E. P. Dutton & Company.	1923
The Domain of Art.....	Conway, Sir William Martin.	J. Murray, London.....	1901
Art, for Amateurs and Students.....	Cox, George James..	Doubleday, Page & Company.	1926
Junior High School Education.....	Davis, Calvin O.....	World Book Company...	1924
Essentials of Design.....	De Garmo, Charles, and Winslow, Leon Loyal.	The Macmillan Company.	1924
Course of Study in Art for Grades Seven, Eight and Nine, Course of Study Monograph Number 7.	Denver, Colorado....	Public Schools, Denver, Colorado.	1925
Fifth Yearbook, The Junior High School Curriculum...	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1927
Theory and Practice of Teaching Art.....	Dow, Arthur Wesley.	Teachers College, Columbia University.	1912
History of Architecture on the Comparative Method: for Students, Craftsmen and Amateurs.	Fletcher, Sir Banister Flight.	Charles Scribner's Sons...	1921
Vision and Design.....	Fry, Roger Eliot....	Brentano's, New York City.	1921
Curriculum Practices in the Junior High School and Grades 5 and 6; Supplementary Educational Monographs No. 25.	Glass, James M.....	University of Chicago, Chicago, Ill.	1924
Art in Every Day Life.....	Goldstein, Harriett Irene, and Goldstein, Vetta.	The Macmillan Company.	1925
Junior High School Curricula.....	Hines, Harlan Cameron.	The Macmillan Company.	1925
Applied Art: A Collection of Designs Showing the Tendencies of American Industrial Art.	Martini, Herbert E., Editor, et al.	F. K. Ferenz, New York City.	1919
The Beginnings of Art in the Public Schools.....	Mathias, Margaret E.	Charles Scribner's Sons...	1924
Teaching of Industrial Arts in the Elementary School..	McMurry, O. L.; Eggers, G. W.; and McMurry, C. A.	The Macmillan Company.	1923
Minimum Course of Study.....	Moore, Ernest C., Chairman, Reports of Committees on Minimum Essentials of Elementary Education.	The Macmillan Company.	1923
A Color Notation; an Illustrated System Defining All Colors and Their Relations by Measured Scales of Hue, Value and Chromo; Made in Solid Paint for the Accompanying Color Atlas.	Munsell, Albert Henry.	Munsell Color Company, Boston.	1919
The Appreciation of Art.....	Neuhaus, Karl Eugen.	Ginn and Company.....	1924
On Drawing and Painting.....	Ross, Denman Waldo.	Houghton Mifflin Company.	1912
A Study of Costume; From the Days of the Egyptians to Modern Times.	Sage, Elizabeth.....	Charles Scribner's Sons...	1926
The Appreciation of Sculpture, a Handbook.....	Sturgis, Russell.....	Baker & Taylor Co., New York.	1904
P's and Q's; A Book on the Art of Letter Arrangement..	Tannahill, Sallie Bell.	Doubleday, Page & Company.	1923
Your Home Beautiful; A Manual of Interior Decoration. Suggestions to Fit Your Means—to Suit Your Taste—to Express Your Individuality.	Taylor, Lucy D.....	George H. Doran Company.	1925
The Significance of the Fine Arts.....	Walker, C. Howard, and others on Committee on Education of the American Institute of Architects.	Marshall Jones Company.	1926
Color in Everyday Life. A Manual for Lay Students, Artisans and Artists; The Principles of Color Combination and Color Arrangement and Their Applications in Dress, Home, Business, the Theater and Community Play.	Weinberg, Louis.....	Moffat, Yard and Company, New York.	1918
Figure Construction.....	Bement, Alon.....	Gregg Pub. Co.....	1921
A Method for Creative Design.....	Best Maugard, Adolpho.	Alfred A. Knopf.....	1926
Potter's Craft.....	Rinns, C. F.....	Van Nostrand Co.....	1922

Among those contributing to the above list were: C. Valentine Kirby, Director of Art, Department of Public Instruction, Harrisburg, Pa.; Walter H. Klar, Supervisor of Art and Hand Work, Department of Public Schools, Springfield, Mass.; C. Edward Newell, Director of Manual Arts, Boston, Mass.; (Miss) Shirley Poore, Assistant Director, Art Department, University of California at Los Angeles, Los Angeles, Calif.; Clara P. Reynolds, Director of Art, Seattle Public Schools, Seattle, Wash.; Lucy S. Silke, Director of Art, Chicago Public Schools, Chicago, Ill.; and Leon L. Winslow, Director of Art Education, Baltimore Public Schools, Baltimore, Md.

COMMERCIAL EDUCATION

Title	Author	Publisher	Year of Publication
Course of Study in Commercial Education—Junior and Senior High Schools.	Baltimore, Maryland, Department of Education.	Department of Education, Division of Vocational Education, Baltimore, Maryland.	1925
Commercial Subjects in the Junior High School.	Barnhart, E. W.	Federal Board for Vocational Education.	Unpublished.
Elements of Business Training.	Brewer, John Marks, and Hurlburt, Floyd.	Ginn and Company.	1926
Curriculum Practices in the Junior High School and Grades 5 and 6, Supplementary Educational Monographs No. 25.	Glass, James M.	University of Chicago, Chicago, Ill.	1924
Junior Training for Modern Business.	Kirk, John George, and Waesche, Mary A.	The John C. Winston Company, Philadelphia.	1925
Commercial Course of Study for Grades VIII and IX, Curriculum Bulletin No. 18.	St. Louis, Missouri, Board of Education.	Board of Education, St. Louis, Missouri.	1926
Survey of the Commercial Education in the Junior and Senior High Schools of Racine, Wisconsin.	Blackstone, Earl G. ...	Board of Education, Racine, Wisconsin.	1925
The Junior High School.	Briggs, Thomas Henry.	Houghton Mifflin Company.	1920
Elementary Business Training.	Carkin, Seth Ballou, and Haynes, B. R.	Rochester Public Schools.	1924
Junior High School Education.	Davis, Calvin Olin. ...	World Book Company. ...	1925
Course of Study—Commerce—Grades Seven, Eight, and Nine—Course of Study Monograph No. 6.	Denver, Colorado. ...	Public Schools, Denver, Colorado.	1924
Fifth Yearbook, The Junior High School Curriculum. .	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1927
Survey of Junior Commercial Occupations, Bulletin No. 54.	Federal Board for Vocational Education.	Federal Board for Vocational Education.	1920
Commercial Studies, Course of Study Monograph No. 28.	Los Angeles City Schools.	Los Angeles City Schools.	1923
Office Practice and Business Procedure.	McGill, Florence. ...	Gregg Publishing Company, N. Y.	1922
Junior Business Training.	Nichols, Frederick George.	American Book Company.	1923
Vocational Education in a Democracy.	Prosser, Chas. A., and Allen, Charles R.	The Century Co.	1925
Clerical Practice: First Lessons in Business.	Ross, Arthur W.; Anderson, William L.; and Staples, Z. C.	American Book Company.	1921
Elements of Business.	Schoch, Parke, and Gross, Murray.	American Book Company.	1918
Junior High School Procedure.	Touton, Frank Charles, and Struthers, Alice Ball.	Ginn and Company.	1926
Elementary Training for Business.	Wilkes, Frederick A.; York, G. M.; and Terrill, C. J.	Ronald Press Company, New York.	1924
New York Syllabus in Commercial Education.	University of the State of New York.	University of the State of New York Press, Albany.	1925

Among those contributing to the above list were: E. G. Blackstone, College of Education, State University of Iowa, Iowa City, Iowa; Walter D. Cocking, Teachers College, Columbia University, New York City; R. L. Hamilton, Assistant Superintendent, Sioux City, Public Schools, Sioux City, Iowa; and F. G. Nichols, Graduate School, Harvard University, Cambridge, Mass.

ENGLISH

Title	Author	Publisher	Year of Publication
Cleveland Course of Study in English—Junior and Senior High Schools.	Cleveland, Ohio, Board of Education.	Board of Education, Cleveland, Ohio.	1921
Essential Principles of Teaching Reading and Literature in the Intermediate Grades and the High School.	Leonard, Sterling Andrus.	J. B. Lippincott Company.	1922
Teaching English in the Junior High School.	Webster, Edward Harlan, and Smith, D. V.	World Book Company.	1927
Teaching Literature in Grammar Grades and High Schools.	Bolenius, Emma Miller.	Houghton Mifflin Company.	1917

ENGLISH—(Continued)

Course of Study in English, Grades VII, VIII, IX and X.	Boston, Massachusetts, Board of Education.	Board of Education, Boston, Massachusetts.	1925
Curriculum Adjustment in the Secondary School.....	Cox, Philip W. L., and Lyman, R. L.	J. B. Lippincott Company.	1925
Fifth Yearbook, The Junior High School Curriculum, p. 87.	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1927
The Teaching of Literature.....	Fries, Charles C.; Hanford, J. H.; and Steves, H. R.	Silver, Burdett and Company.	1926
Teaching English in Junior High Schools.....	Hawley, H. L.	Houghton Mifflin Company.	1924
Report on Reorganization of English in Secondary Schools, Bulletin No. 2.	Hosic, James Fleming.	U. S. Bureau of Education.	1917
Teaching English in Elementary and Junior High Schools, A Manual of Method.	Klapper, Paul.....	D. Appleton and Company.	1925
Supervised Study of English.....	McGregor, Anna Laura.	The Macmillan Company.	1921
Program of Studies and Standards for Organization of Junior High Schools.	Montgomery, Alabama, Department of Education.	Department of Education, Montgomery, Alabama.	1924
Course of Study in English, Years VII-XII.....	Pennsylvania State Department of Public Instruction.	Pennsylvania State Department of Public Instruction.	1923
The Junior High School.....	Smith, W. A.....	The Macmillan Company.	1925
How Much English Grammar?.....	Stormzand, Martin James and O'Shea, Michael W.	Warwick and York.....	1924
Literature for Grades VII, VIII, and IX.....	Stroh, Mary Margaret	Teachers College, Columbia University	1926
The Teaching of English in the Secondary School.....	Thomas, Charles Swain.	Houghton Mifflin Company.	1917
Teaching of Spelling.....	Tidyman, Willard F.	World Book Company.....	1919
Junior High School Procedure.....	Touton, Frank Charles, and Struthers, Alice Ball.	Ginn and Company.....	1926

Among those contributing to the above list were: Howard R. Driggs, Associate Professor of the Teaching of English, New York University, New York, N. Y.; James F. Hosic, Professor of Education, Teachers College, Columbia University, New York, N. Y.; R. L. Lyman, Department of English, University of Chicago, Chicago, Illinois; and J. W. Searson, Professor of English, University of Nebraska, Lincoln, Nebr.

FOREIGN LANGUAGES

Title	Author	Publisher	Year of Publication
Methods of Teaching Modern Languages.....	Handschin, Charles Hart.	World Book Company...	1923
Art of Teaching and Studying Languages.....	Gouin, Francois....	Philip & Son, London....	1896
The Principles of Language Study.....	Palmer, Harold E....	G. G. Harrap & Company, Ltd., London.	1921
The Teaching of German in Secondary Schools.....	Bagster-Collins, Elijah William.	The Macmillan Company.	1904
French—Junior and Senior High School—Grades VIII to XII, Course of Study Monograph No. 13.....	Denver, Colo., Public Schools.	Public Schools, Denver, Colo.	1925
The Cleveland Plan for the Teaching of Modern Languages with Special Reference to French.	de Sauzé, Emile Blais.	John C. Winston Company.	1924
French Pronunciation; Principles and Practice and a Summary of Usage in Writing and Printing.	Geddes, James.....	Oxford University Press..	1913
Silent Reading: A Study of the Various Types, pp. 90-149.	Judd, Charles Hubbard, and Buswell, Guy Thomas.	University of Chicago Press, Chicago, Ill.	1922
The Administration of Secondary School Units.....	Koos, Leonard V....	University of Chicago Press, Chicago, Ill.	1917
The Practice of Teaching in Secondary Schools, pp. 436-437.	Morrison, Henry Clinton.	University of Chicago Press, Chicago, Ill.	1926
The Oral Method of Teaching Languages; a Monograph on Conversational Methods.	Palmer, Harold E....	Heffner & Sons, Ltd., Cambridge, Eng.	1921
Modern Studies.....	Report of the Committee on the Position of Modern Language in the Educational System of Great Britain	His Majesty's Stationery Office, London, Eng. (Eyre and Spottiswood, Ltd., Printers).	1918
Precis de Prononciation Francaise.....	Rousselot, Pierre Jean, and Lacroix, Fauste.	H. Welter, Paris.....	1902
Spanish in the High Schools; a Handbook of Methods with Special Reference to the Junior High Schools...	Wilkins, Lawrence Augustus.	B. H. Sanborn & Co.....	1921

Among those contributing to the above list were: Maro S. Brooks, Superintendent of Schools, Medford, Mass.; E. B. de Sauzé, Director of Foreign Languages, Board of Education, Cleveland, Ohio; Jacob Greenberg, Director of Foreign Languages in Junior High Schools, Board of Education, New York City, N. Y.; and William B. Snow, Assistant Superintendent of Schools, Administration Building, Boston, Mass.

HEALTH AND PHYSICAL EDUCATION

Title	Author	Publisher	Year of Publication
The Laws of Health and How to Teach Them.....	Winslow, Charles E. A., and William-son, Pauline Brooks.	Charles E. Merrill Com-pany.	1926
School Program in Physical Education.....	Hetherington, Clark W.	World Book Company...	1922
The Organization and Administration of Physical Education.	Williams, Jesse F...	The Macmillan Company.	1922
Subject Matter in Health Education.....	Strang, Ruth May...	Bureau of Publications, Teachers College, Colum- bia University.	1926
Source Book in Health and Physical Education.....	Wood, Thomas D., and Brownell, Clifford L.	The Macmillan Company.	1925
Official Handbook on Athletics for Girls and Women...	Committee on Women's Athletics, American Physical Education Association.	American Sports Publish- ing Co., 45 Rose Street, New York.	1927
Pedagogy of Physical Training.....	Crampton, Dr. C. Ward	The Macmillan Company	1922
How to Live: Rules for Healthful Living.....	Fisher, Irving, and Fisk, Eugene Lyman.	Funk and Wagnalls Company.	1915
Gates-Strang Health Knowledge Test.....	Gates, Arthur Irving, and Strang, Ruth May.	Teachers College, Colum- bia University, New York City.	1925
High Schools and Sex Education.....	Gruenberg, Benjamin C.	U. S. Public Health Ser- vice, Treasury Depart- ment, U. S. Govern- ment Printing Office.	1922
Health Education, A Program for Public Schools and Teacher Training Institutions.	Joint Committee on Health Problems in Education of National Education Association and American Medical Association.	Thomas D. Wood, 525 W. 120th Street, New York City.	1924
The Normal Course in Play; practical material for use in the training of playground and recreation workers.	Lee, Joseph.....	A. S. Barnes, New York.	1925
Health Problem Sources.....	Lerrigo, Marian, O...	Bureau of Publications, Teachers College, Colum- bia University....	1925
The Newer Knowledge of Nutrition. The use of food for the preservation of vitality and health.....	McCollum, Elmer U., and Simmonds, Nina.	The Macmillan Company	1925
Exercise in Education and Medicine.....	McKenzie, Robert T.	W. B. Saunders Com- pany, Philadelphia, Pa.	1923
Course of Study, Physical Education for Senior High Schools.	Oakland, California, Board of Educa- tion.	Board of Education, Oak- land, California.	1925
The Child, His Nature and His Needs; a survey of present day knowledge concerning child nature and the promotion of the well being and education of the young.	O'Shea, Michael.....	Children's Foundation, Valparaiso, Indiana.	1924
Education in Health.....	Payne, Enoch George.....	Lyons and Carnahan....	1921
Course of Study in School Health, Hygiene and Physi- ology, Grades 9 to 12.	Pennsylvania State Department of Public Instruction.	Pennsylvania State De- partment of Public Instruction	1923
Manual of Personal Hygiene; proper training upon a physiological basis by American authors.	Pyle, Walter Lytle, Editor.	W. B. Saunders Com- pany.	1917
Individual and Mass Athletics.....	Staley, Seward Charles.....	A. S. Barnes.....	1925
Our Health Habits.....	Whitcomb, Char- lotte Townsend, and Beveridge, John H.	Rand McNally & Co....	1926
The Principles of Physical Education.....	Williams, Jesse F....	W. B. Saunders Co.....	1927
Personal Hygiene Applied.....	Williams, Jesse F....	W. B. Saunders Com- pany.	1922
The New Physical Education.....	Wood, Thomas D., and Cassidy, Rosa- lind F.	The Macmillan Co.....	1927
Health, Through the Prevention and Control of Dis- eases.	Wood, Thomas D., and Powell, Hugh Grant.	World Book Company...	1926

Among those contributing to the above list were: Walter W. Davis, Seattle Public Schools, Seattle, Wash.; Charles H. Keene, M. D., Professor of Hygiene and Director of Physical Education, University of Buffalo, Buffalo, N. Y.; Frederick W. Maroney, M. D., Director, Department of Health Education, Atlantic City Public Schools, Atlantic City, N. J.; Jay B. Nash, Associate Professor of Physical Education, School of Education, New York University, New York, N. Y.; N. H. Pearl, Supervisor of Health Education, Detroit Public Schools, Detroit, Mich; Carl Schrader, Supervisor of Physical Education, Department of Education, State House, Boston, Mass.; and W. A. Stecher, Director of Physical Education, Public Schools, Philadelphia, Pa.

HOME ECONOMICS

Title	Author	Publisher	Year of Publication
Teaching Home Economics.....	Cooley, Anna M., Winchell, Cora M., Spohr, Wilhelmina, and Marshall, J. A.	The Macmillan Company.	1919
Home Economics in the Elementary and Secondary Schools.	Hanna, Agnes Keith.	Whitcomb Barrows Co...	1922
Curriculum Construction.....	Charters, Werrett Wallace.	The Macmillan Company.	1923
Home Economics, Research Monograph No. 1.....	Hopkins, L. Thomas, and Kinyon, Kate W.	Public Schools, Denver, Colo.	1925
The Elementary School Curriculum.....	Bonser, Frederick Gordon.	The Macmillan Company.	1920
Course of Study for Junior High Schools and Grades 7, 8, and 9, Course of Study Monograph No. 12.....	Denver, Colo., Public Schools.	Public Schools, Denver, Colo.	1925
Art In Every Day Life.....	Goldstein, Harriett Irene, and Goldstein, Vetta.	The Macmillan Company.	1925
Foundations of Method.....	Kilpatrick, William Heard.	The Macmillan Company.	1925
Reorganization of Home Economics in Secondary Schools, Bulletin No. 5.	Kingsley, Clarence D., Chairman, Commission on the Reorganization of Secondary Education Appointed by the National Education Association.	U. S. Bureau of Education.	1922
The House and Its Care.....	Matthews, Mary Lockwood.	Little, Brown, and Company.	1926
A Girl's Problems in Home Economics.....	Trilling, Mabel Barbara, and Williams, Florence.	J. B. Lippincott Company.	1926
Home Economics in American Schools, Supplementary Educational Monograph No. 6.	Trilling, Mabel Barbara, Rugg, Harold O., et al.	University of Chicago, Chicago, Ill.	1920
Successful Family Life on the Moderate Income.....	Abel, Mrs. Mary W.	J. B. Lippincott Company.	1921
Home Economics Education—Course of Study for Elementary, Junior High Schools, and Senior High Schools.	Baltimore, Md., Department of Education.	Baltimore, Md., Department of Education.	1925
Home Economics in Education.....	Bevier, Isabel.....	J. B. Lippincott Company.	1924
The Curriculum.....	Bobbitt, John Franklin.	Houghton Mifflin Company.	1918
Curriculum Making in Los Angeles, Supplementary Educational Monographs No. 20.	Bobbitt, John Franklin.	University of Chicago, Chicago, Ill.	1922
How to Make a Curriculum.....	Bobbitt, John Franklin.	Houghton Mifflin Company.	1924
The Junior High School.....	Briggs, Thomas Henry.	Houghton Mifflin Company.	1920
Principles of Clothing Selection.....	Butterick, H. G.....	The Macmillan Company.	1923
An Experiment with a Project Curriculum.....	Collings, Ellsworth.....	The Macmillan Company.	1923
Essentials of Sewing.....	Cook, Rosamond C.	Manual Arts Press, Peoria, Ill.	1924
Household Arts for Home and School, Vols. I and II.....	Cooley, Anna M., and Spohr, Wilhelmina.	The Macmillan Company.	1920
Junior High School Education.....	Davis, Calvin Olin.....	World Book Company.....	1925
Course of Study for Senior High Schools, Course of Study Monograph No. 13.	Denver, Colo., Public Schools.	Dept. of Education, Denver, Colo.	1925
Fifth Yearbook, The Junior High School Curriculum.....	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1927
The Education of the Consumer.....	Harap, Henry.....	The Macmillan Company.	1924
The Redirection of High-School Instruction.....	Lull, Herbert G., and Wilson, H. B.	J. B. Lippincott Company.	1921
Elementary Home Economics.....	Matthews, Mary Lockwood.	Little, Brown, and Company.	1926
The Practice of Teaching in the Secondary School.....	Morrison, Henry Clinton.	University of Chicago Press, Chicago, Ill.	1926
Adolescence and High-School Problems.....	Pringle, Ralph W.....	D. C. Heath & Co.....	1922
How to Know Textiles.....	Small, Cassie Paine.	Ginn and Company.....	1925
Home Economics Education.....	Snedden, David, Editor.....	Teachers College, Columbia University.	1924
Problems of Secondary Education.....	Snedden, David.....	Houghton Mifflin Company.	1917
Vocational Home Making Education.....	Snedden, David.....	Teachers College, Columbia University.	1919
The Family and Its Members.....	Spencer, Mrs. Anna Garlin.	J. B. Lippincott Company.	1923
Junior High School Life.....	Thomas-Tindal, Emma V., and Myers, Jessie du Val.	The Macmillan Company.	1924
The Junior High School Idea.....	Van Denburg, Joseph K.	Henry Holt and Company.	1922

HOME ECONOMICS—(Continued)

A Study of Foods.....	Wardall, Ruth A., and White, Edna Noble.	Ginn and Company.....	1914
Food Study for High Schools.....	Wellman, Mabel Thacher.	Little, Brown, and Com- pany.	1926

Among those contributing to the above list were: Ellen M. Bartlett, Supervisor of Home Economics, Mission Grammar School, San Francisco, Calif.; Mary Beeman, State Supervisor of Home Economics Education, Department of Public Instruction, Indianapolis, Ind.; Henrietta W. Calvin, Director, Division of Home Economics, Board of Education, Grant Building, Philadelphia, Pa.; Emma Conley, Acting Professor of Rural Education, New York State College of Agriculture, Cornell University, Ithaca, N. Y.; Ula M. Dow, In Charge of the Division of Foods, School of Household Economics, Simmons College, Boston, Mass.; Adah Hess, State Supervisor of Home Economics Education, Board for Vocational Education, Springfield, Ill.; Mrs. Kate W. Kinyon, Director of Home Economics Education, Denver Public Schools, Denver, Colo.; Mabel B. Trilling, Department of Home Economics and Household Administration, University of Chicago, Chicago, Ill.; and Adelaide Laura Van Duzer, Supervisor of Home Economics, Board of Education, Cleveland, Ohio.

INDUSTRIAL ARTS

Title	Author	Publisher	Year of Publication
Industrial Arts and Prevocational Education in Intermediate and Junior High Schools.	Edgerton, Alanson Harrison.	Bruce Publishing Co., Milwaukee, Wis.	1922
Teaching Shop Work; A Handbook for Instructors in Vocational Schools.	Haynes, Merritt Way.	Ginn and Company.....	1924
Teaching of Industrial Arts in the Elementary Schools..	McMurry, Oscar L., Eggers, George William, and Mc- Murry, Charles A.	The Macmillan Company.	1923
Methods of Teaching Industrial Education.....	Payne, Arthur Frank.	McGraw-Hill Book Com- pany.	1926
Manual Arts in the Junior High School, Bulletin No. 11.	Roberts, William Elmer.	U. S. Bureau of Educa- tion.	1924
Content and Methods of the Industrial Arts.....	Vaughn, Samuel J., and Mays, Arthur B.	The Century Co.....	1924
The Instructor, the Man, and the Job; a Handbook for Instructors of Industrial and Vocational Subjects...	Allen, Charles Rick- etson.	J. B. Lippincott Com- pany.	1919
Supervision of Vocational Education	Allen, Charles Rick- etson, and Wright, John Calvin.	J. Wiley & Sons, N. Y....	1926
Job Sheets, Household Mechanics.....	Bedell, Earl L.....	Manual Arts Press, Peo- ria, Ill.	1923
The Manual Arts.....	Bennett, Charles Alpheus.	Manual Arts Press, Peo- ria, Ill.	1917
How to Make a Curriculum	Bobbitt, John Frank- lin.	Houghton Mifflin Com- pany.	1924
Industrial Arts for Elementary Schools.....	Bonser, Frederick Gordon.	The Macmillan Company.	1923
Principles and Methods of Industrial Education for Use in Teacher-Training Classes.	Dooley, William Henry.	Houghton Mifflin Com- pany.	1919
Essentials of Sheet-Metal Work and Pattern Drafting...	Dougherty, J. S.....	F. J. Drake & Co., Chi- cago.	1918
Mechanical Drawing for High Schools.....	French, Thomas Ewing and Sven- sen, Carl L.	McGraw-Hill Book Com- pany.	1919
Exploring the Manual Arts.....	Friese, John Frank...	The Century Co.....	1926
Manual Arts in the Junior High School.....	Friese, John Frank...	St. Cloud, Minn., Board of Education.	1925
Supervision of Special Subjects; with Special Applica- tion to the Supervision of Manual and Industrial Arts.	Greene, Leon Sher- man.	Bruce Publishing Co., Milwaukee, Wis.	1922
Teaching Manual and Industrial Arts; a Textbook for Normal Schools and Colleges.	Griffith, Ira Samuel..	Manual Arts Press, Peo- ria, Ill.	1924
Woodwork for Secondary Schools; a Textbook for High Schools and Colleges.	Griffith, Ira Samuel..	Manual Arts Press, Peo- ria, Ill.	1916
Psychology of High School Subjects.....	Judd, Charles Hub- bard.	Ginn and Company.....	1915
Mechanics of the Household; a Course of Study Devoted to the Domestic Machinery and Household Mechan- ics.	Keene, Edward Spencer.	McGraw-Hill Book Com- pany.	1918
Examples of Industrial Education.....	Leavitt, Frank Mit- chell.	Ginn and Company.....	1912
Administration of Vocational Education.....	Payne, Arthur Frank.	McGraw-Hill Book Com- pany.	1924
Organization of Vocational Guidance.....	Payne, Arthur Frank.	McGraw-Hill Book Com- pany.	1925
How to Teach a Trade.....	Selvidge, Robert Washington.	Manual Arts Press, Peo- ria, Ill.	1923
Reconstruction of Industrial Arts Courses; with Special Reference to Aims and Objectives in Junior High Schools.	Snedden, David, and Warner, William E., et al.	Teachers College, Colum- bia University.	1927
Vocational Education.....	Snedden, David Samuel.	The Macmillan Com- pany.	1920
Job Sheets in Household Mechanics.....	Tustison, F. E.....	Bruce Publishing Co., Milwaukee, Wis.	1924

Among those contributing to the above list were: Charles F. Bauder, Director, Industrial Arts, Philadelphia, Pa.; Willard E. Givens, Superintendent of Schools, San Diego, Calif.; Frank M. Leavitt, Associate Superintendent, Pittsburgh Public Schools, Pittsburgh, Pa.; Edward D. Roberts, Associate Superintendent, Cincinnati Public Schools, Cincinnati, Ohio; W. E. Roberts, Supervisor of Manual Arts, Board of Education, Cleveland, Ohio; and Robert Woellner, University High School, University of Chicago, Chicago, Ill.

LATIN

Title	Author	Publisher	Year of Publication
The Classical Investigation, Part I.....	American Classical League — Advisory Committee.	Princeton University Press.	1924
An Inventory of English Constructions with Measures of their Importance.	Thorndike, E. L.....	Teachers College Record Vol. 28, pp. 580-610.	Feb., 1927
Vocabulary of High School Latin, Contributions to Education No. 9.	Lodge, G.....	Teachers College, Columbia University.	1909
An Etymological Study of 10,000 Words in Thorndike's Teachers Word Book—Indiana University Studies, Vol. XII, No. 65.	Lindsay, Edward V.....	Indiana University.....	1925
Classical Myths that Live Today.....	Sabin, Frances E.....	Silver, Burdett and Company.	1927
Ancient Languages—Latin and Greek.....	New York State Department of Education.	New York State Department of Education.	1919
First Latin Lessons.....	Scott, Harry.....	Scott, Foresman and Company.	1922
Junior Latin Lessons.....	D'Ooge, B. J., and Roehm, D. M.	Ginn and Company.....	1926
Elementa Prima.....	Whittemore, L. D., and Ewing, L. L.	John C. Winston Co.....	1925
Principles Underlying the Latin Course in the Junior High Schools of Rochester.	Gray, Mason D.....	Rochester Board of Education.	1926
Latin for Today, a First Year Course.....	Gray, Mason D., and Jenkins, T.	Ginn and Company.....	1927
Our Roman Legacy: An Exploratory Course in Latin for the Eighth Year.	Otis, A. T.....	D. C. Heath & Co.....	1926
Selected Latin Vocabulary for Second Year Reading... Curriculum Making in Los Angeles, Supplementary Educational Monographs No. 20, pp. 99-101.	Hurlbut, Stephen A.	St. Albans Press.....	1926
Junior High School Education, Chapter 10, Foreign Languages, pp. 160-77.	Bobbitt, John Franklin.	University of Chicago Press, Chicago, Ill.	1922
Denver Junior High School Syllabus in Latin, Monograph No. 5, Latin in Grades 7, 8, and 9.	Davis, Calvin Olin...	World Book Company.....	1925
Curriculum Practices in the Junior High School and Grades 5 and 6, Supplementary Educational Monographs No. 25.	Denver, Colo., Public Schools.	Public Schools, Denver, Colo.	1924
Latin for Grades 9 to 12, Curriculum Bulletin No. 43...	Glass, James M.....	University of Chicago, Chicago, Ill.	1924
	St. Louis, Mo., Board of Education.	Board of Education, St. Louis, Mo.	1926

Among those contributing to the above list were: Mason D. Gray, Head of Latin and Greek Departments, Rochester Public Schools, Rochester, N. Y.; Wren Jones Grimstead, Department of Education, University of Pennsylvania, Philadelphia, Pa.; Frances E. Sabin, Director, Service Bureau for Classical Teachers, Teachers College, Columbia University, New York City.

MUSIC

Title	Author	Publisher	Year of Publication
Fifth Yearbook The Junior High School Curriculum, Chapter XIV.	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1927
The School Music Handbook.....	Cundiff, Hannah M., and Dykema, Peter.	C. C. Birchard & Co., Boston.	1923
An Introduction to School Music Teaching.....	Gehrkins, Karl Wilson.	C. C. Birchard & Co., Boston.	1919
Psychology of Musical Talent.....	Seashore, Carl Emil..	Silver, Burdett and Company.	1919
Annual Reports—Music Supervisors National Conference.	Weaver, Paul J., Editor.	University of North Carolina, Chapel Hill, N. C.	
The Voice of the Boy; a New Conception of Its Nature and Needs in Development and Use and of Its Relation to the Adult Male Voice.	Dawson, John James.	E. L. Kellogg & Co., New York.	1902
Fourth Yearbook, The Nation at Work on the Public School Curriculum.	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1926
Education through Music.....	Farnsworth, Charles Hubert.	American Book Company.	1909
How to Study Music.....	Farnsworth, Charles Hubert.	The Macmillan Company.	1920
High School Music Teaching for Superintendents, Music Supervisors, Grade and High School Teachers.	Giddings, Thaddeus P., and Baker, Earl L.	Earl L. Baker, Minneapolis, Minnesota.	1922
Music Appreciation in the Schoolroom.....	Giddings, Thaddeus P.; Earhart, Will; Newton, Elbridge W.; and Baldwin, Ralph.	Ginn and Company.....	1926
Music Appreciation Based Upon Methods of Literary Criticism.	Hamilton, Clarence Grant.	Oliver Ditson Company, Boston.	1902
Tests and Measurements in Music.....	Kwalwasser, Jacob..	C. C. Birchard & Co. Boston.	1927

MUSIC—(Continued)

Instrumental Technique for Orchestra and Bands; an Exhaustive and Practical Text Book for Teachers, Conductors and Students.....	Maddy Joseph E. and Giddings, T. P.	The Willis Music Company.	1926
Introduction to Music Appreciation and History.....	Moyer, Dorothy Tremble.	Oliver Ditson Company, Boston.	1923
Everybody's Guide to Radio Music.....	Scholes, Percy A....	Oxford University Press, New York.	
The Melodic Method in School Music.....	Taylor, David Clark	The Macmillan Company	1918

Among those contributing were: John W. Beattie, Director, Public School Music, Northwestern University School of Music, Evanston, Ill.; Will Earhart, Director of Music, Pittsburgh Public Schools, Pittsburgh, Pa.; Jacob Kwalwasser, Professor of Music Education, College of Fine Arts, Syracuse University, Syracuse, N. Y.; Russell V. Morgan, Directing Supervisor, Department of Music, Board of Education, Cleveland, Ohio; Max Schoen, Carnegie Institute of Technology, Schenley Park, Pittsburgh, Pa.; and Carl E. Seashore, Dean, The Graduate School, State University of Iowa, Iowa City, Iowa.

MATHEMATICS

Title	Author	Publisher	Year of Publication
Teaching Junior High School Mathematics.....	Barber, Harry C....	Houghton Mifflin Company	1924
Reorganization of Mathematics in Secondary Education.	Young, J. W., Chairman, National Committee on Mathematical Requirements.	Houghton Mifflin Company.	1927
Fifth Yearbook, The Junior High School Curriculum...	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1927
Tentative List of Objectives in the Teaching of Junior High School Mathematics; with Investigations for the Determining of Their Validity.	Schorling, Raleigh...	George Wahr, Ann Arbor, Michigan.	1925
Mathematics in the Junior High School.....	Clark, John R.....	Gazette Press, Yonkers, New York.	1925
The Second Yearbook—Curriculum Problems in Teaching Mathematics.	National Council of Teachers of Mathematics.	Bureau of Publications, Teachers College, Columbia University.	1927
The First Yearbook—General Survey of Progress in the Last Twenty-five Years.	National Council of Teachers of Mathematics.	Charles H. Austin, Oak Park High School, Oak Park, Ill.	1926
The Psychology of Algebra.....	Thorndike, Edward Lee; Cobb, Margaret V.; Orleans, Jacob V.; and others.	The Macmillan Company.	1923
Mathematics Course of Study for Senior and Junior High Schools.	Baltimore, Maryland, Department of Education.	Department of Education, Baltimore, Maryland.	1924
Illustrated Manual in Mathematics for Grades Seven and Eight.	Chicago, Illinois, Board of Education.	Board of Education, Chicago, Illinois.	1923
Mathematics for Junior High School, Grades 7, 8 and 9, Course of Study Monograph No. 17.	Denver, Colorado, Public Schools.	Public Schools, Denver, Colorado.	1926
Third Yearbook, Research in Constructing the Elementary School Curriculum.	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1925
Junior High School Mathematics.....	Hart, Walter Wilson and Wells, W.	D. C. Heath & Co.....	1921
Teaching of Arithmetic.....	Lennes, N. Johann.	The Macmillan Company.	1923
The Teaching of Elementary Algebra.....	Ligda, Paul.....	Houghton Mifflin Company.	1925
Self-Directed School.....	Miller, Harry Lloyd and Hargreaves, Richard T.	Charles Scribner's Sons, New York.	1925
Practice of Teaching in Secondary Schools.....	Morrison, Henry Clinton.	University of Chicago Press, Chicago, Ill.	1926
The Teaching of Algebra Including Trigonometry.....	Nunn, T. P.....	Longmans, Green & Co....	1912
Corrective Arithmetic for Supervisors, Teachers, and Training Classes.	Osburn, Worth James	Houghton Mifflin Company.	1924
Arithmetic for Teachers.....	Roantree, William, and Taylor, M. S.	The Macmillan Company.	1925
Reconstruction of 9th Grade Mathematics.....	Rugg, Harold Ordway, and Clark, J. Roscoe.	University of Chicago Press, Chicago, Ill.	1918
Mathematics for Grades VII, VIII and IX, Curriculum Bulletin No. 12.	St. Louis, Missouri, Board of Education.	Board of Education, St. Louis, Missouri.	1926
The Teaching of Junior High School Mathematics....	Smith, David Eugene, and Reeve, William David.	Ginn and Company.	1927
New Methods in Arithmetic.....	Thorndike, Edward Lee.	Rand McNally & Company.	1921
The Psychology of Arithmetic.....	Thorndike, Edward Lee.	The Macmillan Company	1922

Among those contributing to the above list were: E. R. Breslich, President, School of Education, University of Chicago, Chicago, Ill.; John R. Clark, Editor, The Mathematics Teacher, National Council of Teachers of Mathematics, 425 West 123rd Street, New York City; Walter W. Hart, School of Education, University of Wisconsin, Madison, Wis.; L. Thomas Hopkins, College of Education, University of Colorado, Boulder, Colo.; Frank G. Pickell, Superintendent of Schools, Montclair, N. J.; Raleigh Schorling, University of Michigan, Ann Arbor, Michigan; Guy M. Wilson, Professor of Education, Boston University, Boston, Mass.; and Clifford Woody, Director, Bureau of Educational Reference and Research, University of Michigan, Ann Arbor, Mich.

SCIENCE

Title	Author	Publisher	Year of Publication
Investigations in the Teaching of Science in the Elementary and Secondary Schools.	Curtis, Francis Day.	P. Blackiston's Son & Co.	1926
The Reorganization of Science in Secondary Schools, Bulletin No. 26.	Caldwell, Otis D., Chairman, Commission on the Reorganization of Secondary Education, Appointed by the National Education Association.	U. S. Bureau of Education	1920
The Teaching of General Science.....	Eikenberry, William Lewis.	University of Chicago Press, Chicago, Ill.	1922
How to Teach General Science.....	Frank, Joseph Otto..	Castle-Pierce Press, Oshkosh, Wis.	1925
Fifth Yearbook, The Junior High School Curriculum; Chapter XI.	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1927
Teaching Science in the Schools.....	Downing, Elliott Rowland.	University of Chicago Press, Chicago, Ill.	1925
Bird Biographies.....	Ball, Alice Eliza....	Dodd, Mead & Company.	1923
Sixteen Units of Study Pamphlets on Science.....	Boston, Massachusetts, Board of Education.	Board of Education, Boston, Massachusetts.	1924
Concerning the Nature of Things.....	Bragg, Sir William Henry.	G. Bell & Sons, Ltd.....	1924
The Teaching of Science and the Science Teacher; the relation of science teaching to education in general.	Brownell, Herbert, and Wade, Frank B.	The Century Co.....	1925
General Science in the Junior High School at Rochester, New York, Part I, Organization and Aims.	Carpenter, Harry A..	General Science Quarterly 1:46-53; and 2:255-267.	1917 1918
Animals of Land and Sea.....	Clark, Austin H.....	Van Nostrand Co.....	1925
Our Physical World.....	Downing, Elliott Rowland.	University of Chicago Press, Chicago, Ill.	1924
Biology in Secondary Schools—A Yearbook in the principles of the training of biology teachers.	Finley, Charles William.	Teachers College, Columbia University.	1926
The Education of the Consumer.....	Harap, Henry.....	The Macmillan Company.	1924
Insect Stories.....	Kellogg, Vernon Lyman.	Hall-McCleary and Company.	1908
Stories in Stone.....	Lee, Willis Thomas..	Van Nostrand Co.....	1926
Los Angeles Course of Study in General Science, Course of Study Monograph No. 26.	Los Angeles, California, Board of Education.	Board of Education, Los Angeles, California.	1926
Evenings with the Stars.....	Proctor, Mary.....	Cassell & Co., N. Y.....	1924
Chats on Science.....	Slosson, Edwin E.....	The Century Co.....	1924
The Teaching of General Science in Elementary Schools.	Trafton, Gilbert.....	Houghton Mifflin Company.	1918
Science Teaching.....	Twiss, George Ran-cour.	The Macmillan Company.	1917
New York Syllabus in General Science, Bulletin No. 821.	University of the State of New York.	University of the State of New York, Albany.	1925
General Science Instruction in the Grades.....	Webb, Hanor A.....	George Peabody College..	1921
Teaching of Science.....	Woodhull, J. F.....	The Macmillan Company.	1918

Among those contributing to the above list were: Francis D. Curtis, Assistant Professor of Secondary Education and of the Teaching of Biology and General Science, University of Michigan, Ann Arbor, Mich.; Otis W. Caldwell, Professor of Education and Director, Lincoln Institute of School Experimentation, Teachers College, Columbia University, New York City; Joseph R. Lunt, Acting Supervisor of Science, Intermediate Schools, Teachers' College of the City of Boston, Boston, Mass.; Edwin E. Slosson, Director, Science Service, Twenty-first and B Streets, Washington, D. C.; Ralph K. Watkins, School of Education, University High School, University of Missouri, Columbia, Mo.; W. G. Whitman, Editor and Manager, General Science Quarterly, State Normal School, Salem, Mass.; and Edward E. Wildman, Director, Division of Science, Philadelphia Public Schools, Administration Building No. 3, 1522 Cherry Street, Philadelphia, Pa.

SOCIAL STUDIES

Title	Author	Publisher	Year of Publication
Training in Citizenship, Chapter XX.....	Hatch Roy Winthrop.	Charles Scribner's Sons, New York.	1926
History and the Other Social Studies in the Junior High School.	Knowlton, Daniel Chauncey.	Charles Scribner's Sons, New York.	1926
Third Yearbook, Research in Constructing the Elementary School Curriculum.	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1925
Making History Graphic; Types of Students' Work in History.	Knowlton, Daniel Chauncey.	Charles Scribner's Sons, New York.	1925
Fourth Yearbook, The Nation at Work on the Public School Curriculum.	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1926
Experimental Curriculum-Making in the Social Studies.	Gambrill, J. M.....	McKinley Publishing Company.	1924
Twenty-Second Yearbook, Part III, The Social Studies in the Elementary and Secondary School.	National Society for the Study of Education.	Public School Publishing Company, Bloomington, Ill.	1923

SOCIAL STUDIES—((Continued))

The Teaching of Government; report to the American Political Science Association by the Committee on Instruction.	American Political Science Association.	The Macmillan Company.	1916
The Teaching of Community Civics, Bulletin No. 23.	Barnard, J a m e s Lynn; Carrier, F. W.; Dunn, Arthur W.; and Kingsley, Clarence D.	U. S. Bureau of Education.	1915
The Curriculum.....	Bobbitt, Franklin....	Houghton Mifflin Company.	1918
Curriculum Investigations, Supplementary Educational Monographs No. 31.	Bobbitt, Franklin, and others.	University of Chicago, Department of Education.	1926
How to Make a Curriculum.....	Bobbitt, Franklin....	Houghton Mifflin Company.	1924
Modern Educational Theories.....	Bode, Boyd H.	The Macmillan Company.	1927
Essentials of Americanization.....	Bogardus, Emory Stephen.	Jesse Ray Miller, University Avenue, Los Angeles.	1923
Curriculum Problems.....	Briggs, T h o m a s Henry.	The Macmillan Company.	1926
Curriculum Construction.....	Charters, Werrett Wallace.	The Macmillan Company.	1923
Senior High School Curriculum, Supplementary Educational Monographs No. 29.	Counts, George Sylvester.	University of Chicago, Department of Education.	1926
Reports of the National Council for Teaching the Social Studies.	Dawson, Edgar, Secretary, National Council of the Social Studies.	Hunter College, New York City.	
Teaching of the Social Studies.....	Dawson, Edgar, Secretary, National Council of the Social Studies.	The Macmillan Company.	1926
Fifth Yearbook, The Junior High School Curriculum, Chapter XII.	Department of Superintendence, National Education Association.	Department of Superintendence, National Education Association.	1927
The Reorganization of the Social Studies in the Secondary School, Bulletin No. 28.	Dunn, Arthur W., Chairman, Committee on the Reorganization of Secondary Education, Appointed by the National Education Association.	U. S. Bureau of Education.	1916
Citizenship in School and Out; for the first six years of school life.	Dunn, Arthur W., and Harris, Hannah Margaret.	D. C. Heath & Co.	1919
Geography in World Power.....	Fairgrieve, James....	E. P. Dutton & Company, N. Y.	1917
Lessons in Civics for the Six Elementary Grades of City Schools, Bulletin No. 18.	Harris, Hannah M. .	U. S. Bureau of Education.	1920
Training in Citizenship, Chapter XX.....	Hatch, Roy W.	Charles Scribner's Sons, New York.	1926
Principles of Human Geography.....	Huntington, E l l i n g worth, and Cushing, Sumner W.	J. Wiley & Sons, Inc., 432 Fourth Ave., New York.	1920
Teaching of History in Elementary and Secondary Schools.	Johnson, Henry.....	The Macmillan Company.	1915
Teaching of History, with Chapters on the Teaching of Civics; a Manual of Method for Elementary and Junior High Schools.	Klapper, Paul.....	D. Appleton and Company.	1926
History as a School of Citizenship; with a Foreword by the Master of Balliol.....	Madeley, Helen M. .	Oxford University Press, London.	1920
Type Studies from the Geography of the United States, 1st Series.	McMurry, Charles Alexander.	The Macmillan Company.	1904
Teaching Technique of the Secondary School.....	Morrison, H e n r y Clinton.	Edwards Brothers, Ann Arbor, Michigan.	1924
Bulletins on Character Education.....	Oakland, California, Public Schools.	Public Schools, Oakland, California.	1926
Keeping Pace with the Advancing Curriculum, Research Bulletin, Volume 3, Nos. 4 and 5.	Research Division, National Education Association.	Research Division, National Education Association.	1925
Social Science Pamphlets, Essentials in Geography, History, Civics.	Rugg, H. O., Rugg, E. U., and Schweppe, Emma.	Lincoln School, Teachers College, Columbia University, New York.	
Citizenship and the School.....	Showan, P. B.	The Macmillan Company.	1924
Guide to Readings in Civic Education, Bureau of Research in Education, Study No. 11.	Thompson, Olive....	University of California Press, Berkeley, Calif.	1922
Teaching of History in Junior and Senior High Schools.	Tryon, Rolla Milton.	Ginn and Company.....	1921
A Scale for Measuring the Importance of Good Citizenship.	Upton, Mrs. Siegfried M., and Chasell, Clara F.	Teachers College, Columbia University, New York City.	1921

Among those contributing to the above list were: William L. Connor, Chief, Division of Records and Special Services, Board of Education, Cleveland, Ohio; Henry Harap, Cleveland School of Education, Cleveland, Ohio; Roy W. Hatch, Teachers College, Columbia University, New York City, N. Y.; Howard C. Hill, Department of History and Other Social Studies, School of Education, University of Chicago, Chicago, Ill.; Daniel C. Knowlton, Assistant Professor of Visual Education, Graduate School, Yale University, New Haven, Conn.; L. A. Pechstein, College of Education, University of Cincinnati, Cincinnati, Ohio; and Earle U. Rugg, Head, Department of Education, Colorado State Teachers College, Greeley, Colo.

Expert Opinion as to Most Helpful Books on School Counseling and Guidance¹

The years of early adolescence are years of exploration in which the pupil tries out his abilities, capacities, and aptitudes and discovers his talents and his weaknesses, his likes and his dislikes. "The adolescent child has more problems to meet inside himself than ever happened to him before or than ever will happen again," according to Henry C. Morrison. While general exploratory courses, free electives, and opportunity for creative pupil activities all aid in the realization of such functions of the junior high school as recognition of individual differences, exploration, pre-vocational training, and orientation,

school counseling programs are necessary to make them really effective

Many of the more progressive junior high schools have scientifically trained counselors with a keen understanding of adolescent youth who are freed from classroom duties to co-ordinate all the activities of the school having to do with personnel problems. The counseling program needs the support of the whole school faculty. What books will put them in touch with the best thought relative to school counseling and guidance? Ten specialists were asked to submit a list of the ten books which in their judgment would be most helpful to local junior and senior high school faculties. Table 10 is a compilation of their answers. The books are arranged according to frequency of mention.

TABLE 10.—BOOKS DEALING WITH SCHOOL COUNSELING AND GUIDANCE²

Title	Author	Publisher	Year of Publication
Educational and Vocational Guidance.....	Proctor, William M.	Houghton Mifflin Co.	1925
The Problem of Vocational Guidance.....	Myers, George E.	The Macmillan Company.	1927
Vocational Guidance and Counseling.....	Edgerton, A. H.	The Macmillan Company.	1926
Pupil Adjustment in Junior and Senior High Schools.....	Reavis, William C.	D. C. Heath and Co.	1926
Psychology of Vocational Adjustment.....	Kitson, Harry D.	J. B. Lippincott Company	1925
A Guide to the Study of Occupations (Bibliography).....	Allen, Frederick J.	Harvard University Press.	1925
Principles and Problems in Vocational Guidance.....	Allen, Frederick J.	McGraw-Hill Book Co.	1927
The Occupations. Teachers Manual, by Mildred E. Lincoln.	Gowin, E. B., Wheatley, M. A., and Brewer, John M.	Ginn and Company.....	1923
The Vocational Guidance Movement.....	Brewer, John M.	The Macmillan Company.	1919
Vocational and Moral Guidance.....	Davis, Jesse B.	Ginn and Company.....	1914
Practice in Vocational Guidance.....	Allen, Frederick J.	McGraw-Hill Book Co.	1927
Case Studies in Educational and Vocational Guidance.....	Brewer, John M., and others.	Ginn and Company.....	1926
Organization of Vocational Guidance.....	Payne, A. F.	McGraw-Hill Book Co.	1924
Your School and You.....	Bliss, Walton B.	Allyn and Bacon.....	1927
Vocational Self-Guidance.....	Fryer, Douglas.	J. B. Lippincott Company	1925
Making a Living.....	Lyon, Leverett S.	The Macmillan Company.	1926
Vocational Guidance Magazine.....		Bureau of Vocational Guidance, Harvard University, Cambridge, Mass.	8 times per year
Characteristic Differences in Bright and Dull Pupils.....	Baker, Harry J.	Public School Publishing Company.	1927
The Guidance for College Women.....	Blake, Mabelle B.	D. Appleton & Company	1926
Child Guidance.....	Blanton, M. G., and Blanton, S.	The Century Co.	1927
Selected Readings in Vocational Guidance.....	Bloomfield, Meyer.	Ginn and Company.	1915
Mental Measurements in Educational and Vocational Guidance.....	Brewer, John M., and others.	Harvard University Press.	1924
The Normal Mind.....	Burnham, W. H.	D. Appleton & Company.	1924
Education and Vocations.....	Eaton, Theodore H.	John Wiley and Sons.....	1926
Bibliography on Vocational Guidance, Bulletin No. 66 (Revised Edition).	Federal Board for Vocational Education.	Government Printing Office.	Dec., 1925
Careers for Women.....	Filete, Catherine, Editor.	Houghton Mifflin Company.	1920
Mental Tests.....	Freeman, Frank N.	Houghton Mifflin Co.	1926
On Being a Girl.....	Gibson, Jessie M.	The Macmillan Company.	1927
Guide Posts to Junior High-School Years Book I, Our Junior High School	Glass, James M., Holbrook, Harold L., and McGregor, Laura A.	Allyn and Bacon.....	1927
Day Schools for Young Workers.....	Keller, F. J.	The Century Co.....	1924
Occupational Studies.....	Lane, May Rogers.	International Textbook Co.	1927
Vocational Readings.....	Lyon, L. S., and Butler, A. Marie.	The Macmillan Company.	1927
Vocational Guidance of College Students.....	Maverick, Lewis Adams.	Harvard University Press.	1926

¹ The improvement of conditions for study and methods of work of high-school pupils is also a problem of major interest to teachers of adolescent youth. A bibliography covering this important topic is not included here, since a carefully annotated list of 143 articles, prepared by Maxie N. Woodring and Cecile White Flemming, is available in the February, 1928, issue of *Teachers College Record*, pp. 417-447. This article is one of a series dealing with problems in directing study of high-school pupils. See: January, February, and March issues of *Teachers College Record* for 1928.

² See also "A Partial Bibliography for Deans of Women and Girls" by Sarah M. Sturtevant and Harriet Hayes in April, 1928, issue of *Teacher College Record*.

BOOKS DEALING WITH SCHOOL COUNSELING AND GUIDANCE—(Continued)

Occupational Information in the Elementary School.	McCracken, Thomas C., and Lamb, H. E.	Houghton Mifflin Company.	1923
Extra-Curricular Activities.	McKown, Harry C.	The Macmillan Company.	1927
Twenty-Third Yearbook, Part II, Vocational Guidance and Education.	National Society for the Study of Education.	Public School Publishing Company.	1924
Psychological Tests in the Educational and Vocational Guidance of High School Pupils.	Proctor, William M.	Public School Publishing Company.	1921
Junior Wage Earners.	Reed, A. Y.	The Macmillan Company.	1920
Vocational Education.	Snedden, David	The Macmillan Company.	1920
Measurement in Secondary Education.	Symonds, P. M.	The Macmillan Company.	1927
The Intelligence of School Children.	Terman, L. M.	Houghton Mifflin Company.	1919
Vocational Guidance and Junior Placement.	U. S. Department of Labor, Children's Bureau Publication No. 149.	Government Printing Office.	
Vocational and Curricular Guidance in Pittsburgh High Schools, Vol. 4, No. 5, Pp. 194-256.	Vocational Guidance Magazine.	Bureau of Vocational Guidance, Graduate School of Education, Harvard University.	Feb., 1926
Choosing an Occupation.	Zeigler, S. H., and Jaquette, H.	John C. Winston Company.	1924
An Experimental Study of Children at Work and at School between 14 and 18.	Wooley, Helen T.	The Macmillan Company.	1926
Three Problem Children.	Joint Committee on Methods of Preventing Delinquency.	Division of Publications, The Commonwealth Fund, N. Y.	1924

Among those contributing to the above list were: Richard D. Allen, Assistant Superintendent, Department of Research and Guidance, Providence Public Schools, Providence, R. I.; John M. Brewer, Director, Bureau of Vocational Guidance of the Graduate School of Education, Harvard University, Cambridge, Mass.; F. E. Clerk, Superintendent, New Trier Township High School, Winnetka, Ill.; Anne S. Davis, Director, Vocational Guidance Bureau, City Public Schools, Chicago, Ill.; Jesse B. Davis, Professor of Secondary Education, Boston University, School of Education, Boston, Mass.; W. Hardin Hughes, Director of Research and Service, Pasadena City Schools, Pasadena, Calif.; Harry D. Kitson, Professor of Education, Columbia University, New York City; George E. Myers, Professor of Vocational Education and Guidance, University of Michigan, School of Education, Ann Arbor, Mich.; W. C. Reavis, Assistant Professor of Education, The University of Chicago, Chicago, Ill.; and Edward Rynearson, Director of Vocational Guidance, Fifth Avenue High School, Pittsburgh, Pa.

TABLE 11.—ADDRESSES OF PUBLISHERS OF BOOKS LISTED IN TABLES

Publisher	Address	Publisher	Address
Allyn and Bacon.	Boston, Mass.	Little, Brown and Company.	Boston, Mass.
American Book Company.	New York City, N. Y.	Longmans, Green & Co.	New York City, N. Y.
American Sports Publishing Co.	New York City, N. Y.	Lyons and Carnahan.	Chicago, Ill.
D. Appleton and Company.	New York City, N. Y.	The Macmillan Company.	New York City, N. Y.
Atkinson, Mentzer & Company.	Chicago, Ill.	His Majesty's Stationery Office.	London, England.
Baker & Taylor Co.	New York City, N. Y.	Manual Arts Press.	Peoria, Ill.
A. S. Barnes.	New York City, N. Y.	A. L. McClurg & Co.	Chicago, Ill.
G. Bell & Sons, Ltd.	Lincoln's Inn Fields, W. C. 2, London, England.	McGraw-Hill Book Company.	New York City, N. Y.
C. C. Birchard & Co.	Boston, Mass.	McKinley Publishing Company.	Philadelphia, Pa.
P. Blackiston's Son & Co.	Philadelphia, Pa.	Charles E. Merrill Company.	New York City, N. Y.
Brentano's.	New York City, N. Y.	Moffat, Yard and Company.	New York City, N. Y.
Bruce Publishing Co.	Milwaukee, Wis.	Munsell Color Company.	Boston, Mass.
Cassell & Co.	New York City, N. Y.	J. Murray.	London, England.
Castle-Pierce Press.	Oshkosh, Wis.	National Education Association.	Washington, D. C.
The Century Co.	New York City, N. Y.	Oxford University Press.	35 W. 32d St., New York City, N. Y.
Children's Foundation.	Valparaiso, Ind.	Pacific Press Pub. Assn.	Mountain View, Calif.
Oliver Ditson Company.	Boston, Mass.	George Peabody College for Teachers, Bureau of Publications.	Nashville, Tenn.
Dodd, Mead & Company.	New York City, N. Y.	Philip & Son.	London, England.
George H. Doran Company.	New York City, N. Y.	The Prang Company.	Chicago, Ill.
Doubleday, Page and Company.	Garden City, N. Y.	Princeton University Press.	Princeton, N. Y.
F. J. Drake & Co.	Chicago, Ill.	Public School Publishing Company.	Bloomington, Ill.
E. P. Dutton & Company.	New York City, N. Y.	Rand McNally & Company.	Chicago, Ill.
Edwards Brothers.	Ann Arbor, Mich.	Ronald Press Company.	New York City, N. Y.
F. K. Ferenz.	New York City, N. Y.	St. Albans Press.	Mount St. Albans, Washington, D. C.
Funk and Wagnalls Company.	New York City, N. Y.	B. H. Sanborn & Co.	Boston, Mass.
Gazette Press.	Yonkers, New York.	W. B. Saunders Company.	Philadelphia, Pa.
Ginn and Company.	Boston, Mass.	Scott, Foresman and Company.	Chicago, Ill.
Gregg Publishing Company.	New York City, N. Y.	Charles Scribner's Sons.	New York City, N. Y.
Harcourt, Brace and Company.	Chicago, Ill.	Silver, Burdett and Company.	New York City, N. Y.
Hall-McCleary and Company.	New York City, N. Y.	Teachers College, Bureau of Publications, Columbia University.	New York City, N. Y.
G. G. Harrap & Company, Ltd.	W. C. 2, London, England.	The University of Chicago Press.	Chicago, Ill.
Harvard University Press.	Cambridge, Mass.	Van Nostrand Co.	New York City, N. Y.
D. C. Heath & Co.	Boston, Mass.	George Wahr.	Ann Arbor, Mich.
Heffner & Sons, Ltd.	Cambridge, England.	Warwick & York.	Baltimore, Md.
Henry Holt and Company.	New York City, N. Y.	H. Welter.	Paris, France.
Houghton Mifflin Company.	Boston, Mass.	Whitcomb Barrows Co.	Boston, Mass.
International Textbook Co.	Scranton, Pa.	John Wiley and Sons.	New York City, N. Y.
Marshall Jones Company.	Boston, Mass.	The Willie Music Company.	Cincinnati, Ohio.
E. L. Kellogg & Co.	New York City, N. Y.	The John C. Winston Company.	Philadelphia, Pa.
Alfred A. Knopf.	New York City, N. Y.	World Book Company.	Yonkers-on-Hudson, N. Y.
Laidlaw Brothers.	New York City, N. Y.		
J. B. Lippincott Company.	Philadelphia, Pa.		

New Courses for New Schools

"THE REAL BUSINESS of the junior high school is to organize a new curriculum, a new body of constructive material which shall be richer and better for children." This, according to Charles H. Judd, is the legitimate motive for the organization of the junior high school. Since 784 junior high school course of study bulletins, containing 38,986 pages, published since January 1, 1921, have come to the attention of the Research Division of the National Education Association, it appears that those charged with the development of the junior high school are trying hard to develop a richer and better curriculum for children of this age. The 784 bulletins listed in Table 12, by no means represent all the junior high school courses of study published within the past six years. A comprehensive survey of junior high school course of study bulletins was not attempted.

Availability of Local Courses of Study

Since the junior high school development is so recent, the question as to what should be taught in this new unit of the American school program is still an unsolved problem. Practically every school system issuing junior high school course of study bulletins announces them as "tentative." The expense of publishing these tentative courses is heavy. Frequently only a limited number of extra copies are available for distribution outside the local school system. Some school boards find it necessary to place a nominal charge on these bulletins to cover cost of printing and mailing; others distribute a limited number free to superintendents of schools and students of education.

Of the bulletins listed in Table 12, it is probable that the number available for distribution is sufficiently small so that requests for them should only be made when there is

real need and then only for those bulletins in which one is particularly interested.

No Brief for Scissors and Paste Pot

In printing the list of courses in Table 12, no brief is held for the traditional scissors and paste pot method of course of study compilation. The purposes of publishing the list is not to offer a ready means of furnishing raw material for attacking the problem of curriculum revision with scissors and paste pot. The list is printed here because it serves other purposes and because it is nowhere else available.

Legitimate Uses of List of Course of Study Bulletins

The list of 784 bulletins printed below should serve to show:

1. Extent of the effort which the teaching profession is making to "organize a new body of constructive material which shall be richer and better" for junior high school children. Indirectly these bulletins are tangible evidence of the dissatisfaction which school people have for the old type of course of study for the traditional seventh, eighth, and ninth grades.

2. What particular school systems are engaged in building junior high school courses of study. Correspondence between such schools should make it possible for each city to check the results of new departures against the experiences of a number of cities.

3. Certain tendencies in revising courses of study. The following list of bulletins shows that the course of study which brings together under one cover all subjects is giving way to the smaller and more flexible manuals dealing with single subjects. The list shows that there is a tendency to group certain subjects. It also shows that more school systems have been building junior high school courses in English and Social Studies than in any other subjects. The fact that several topics are included in each of these subject groups may, perhaps, be the explanation. It is also interesting to note the wide range of topics included under industrial arts, and the fact that "general science" is the title of the great majority of junior high school course of study bulletins in science.

TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE 1920

Year	Title	No. of pages	Year	Title	No. of pages
ART			COMMERCIAL EDUCATION—contd.		
1923	Arlington, Massachusetts, Drawing Dept., Freehand, Gr. 7-9	*1	1926	Boston, Mass., Clerical Practice for Grade 9 in Intermediate Schools or in S. H. S.	22
1925	Baltimore, Md., Outline of General Art Course, Required of all J. H. S. Pupils	*7		Charleston, W. Va., Commercial Course for J. H. S.	*4
1924	Bayonne, N. J., Course of Study, Fine Arts, Crafts, Music, J. H. S.	73	1924	Denver, Colo., Course of Study Monograph No. 6, Commerce, Gr. 7-9, J. H. S.	92
1923	Binghamton, N. Y., Art Courses, J. and S. H. S.	*16	1926	Elizabeth, N. J., Business Education for the Public Schools	48
1925	Binghamton, N. Y., Drawing or Design, Gr. 7, 8	*6	1926	Harrisburg, Pa., Commercial Subjects	*12
	Boise, Idaho, Art, Gr. 7, 8	*4	1925	Lakewood, Ohio, Commercial, Gen. Science, and Math., Courses of Study	44
1924	Boston, Mass., Special Syllabus in Art for High Schools, School Document No. 8	46	1922	Lansing, Mich., Commercial Education, Gr. 7-12	41
	Charleston, West Va., Independent School District, Art, J. H. S.	*13	1923	Los Angeles, Calif., Course of Study Monographs No. 28, Commercial Studies, Publication No. 83	71
1921	Cleveland, Ohio, Some of the Things the Cleveland Public Schools Are Doing in Art	32	1925	Lynn, Mass., Bookkeeping, Tentative Course, J. H. S.	*9
1921	Cleveland, Ohio, Fine and Applied Art	7	1926	Minneapolis, Minn., Univ. of Minn. Bulletin, Vol. XXIX, No. 17, Pupil-Activity Curriculum in Stenography	20
1925	Denver, Colo., Course of Study Monograph No. 7, Art, Gr. 7-9	99	1925	New Brunswick, N. J., Commercial Work, J. H. S.	*71
1923	Detroit, Mich., Art Education, Intermediate Schools	42	1924	New Hampshire State Dept., Commerce, Gr. 7-8	13
1926	Detroit, Mich., Fine and Allied Arts	103	1923	New York, N. Y., Report on Content, J. H. S. Syllabus, Typewriting	*7
1921	Harrisburg, Pa., Junior and Senior High School Art	*18	1922	Oakland, Calif., Course of Study Series No. 18, Typing, Shorthand, Commercial Arithmetic, Gr. 7-9	8
	Kalamazoo, Mich., Course of Study, Book V, Art and Industrial Arts, Gr. 2-12	90	1925	Oakland, Calif., Course of Study Series No. 74, Business Penmanship, J. and S. H. S.	16
	Kenosha, Wis., Art, Gr. 7-9	*3	1924	Richmond, Va., Commercial Training, Bulletin Vol. 8, No. 1	29
	Kenosha, Wis., Drawing, Gr. 7, 8	*3		Rockford, Ill., Business Practice	*4
1925	Lakewood, Ohio, Art, Music, and Physical Education	21	1925	Rockford, Ill., Tentative Course, Typewriting	*4
1922	Lansing, Mich., Course of Study, Fine Arts, Gr. 1-12	40	1925	San Francisco, Calif., Tentative Course, Commercial Subjects, J. H. S.	*3
1925	Long Beach, Calif., Course of Study in Art, Gr. 1-9	39	1926	St. Louis, Mo., Commercial for Grades 8-9, Curriculum Bulletin No. 18	41
1927	Long Beach, Calif., Art for J. H. S.	62	1924	Vermont State Dept., Courses of Study, Bulletin 1, Part II, English, High Schools	64
1925	Lynn, Mass., Art Education, Tentative Course, J. H. S.	*9	1922	Washington, D. C., Preliminary Report on the Senior Commercial Occupations Survey, Giving Data on 2,590 Commercial Workers 18-30 Years of Age	28
1925	Missouri State, Bulletin No. 5, Art Syllabus, J. and S. H. S.	136	1923	Washington, D. C., Provisional Course of Study in Commercial Branches for J. H. S.	*24
	Montclair, N. J., Tentative Course of Study, Arts, J. H. S.	*6	ENGLISH		
1922	Oakland, Calif., Related Drawing for Smith-Hughes Classes, Superintendent's Bulletin, No. 28	7	1922	Akron, Ohio, Akron English Leaflet, Grade 8	30
1926	Oakland, Calif., Drawing for Junior High Schools and High Schools	18	1925	Austin, Texas, Course of Study in English	62
1922	Omaha, Nebr., Course of Study in Art, Gr. 7, 8	39	1921	Baltimore, Md., Teaching of High School English	148
1925	Pennsylvania State Dept., Course of Study in Art Education, Gr. 1-12	44	1924	Baltimore, Md., English, J. and S. H. S.	252
1926	St. Louis, Mo., Art for Grades 7-9, Curriculum Bulletin, No. 17	57	1924	Bayonne, N. J., English, J. and S. H. S.	141
	San Diego, Calif., Suggestive Course of Study for 7th B Grade in Art	*6	1922	Berkeley, Calif., English, History, Science, Math., and Foreign Languages, Course of Study Monographs, J. H. S., No. 1	132
1925	San Francisco, Calif., Tentative Course, Art, J. H. S.	*4		Beaumont, Tex., Course of Study, Part 2, Language, Grammar, and Rhetoric	9-23
1926	Somerville, Mass., Art Course, J. and S. H. S.	31		Binghamton, N. Y., Course of Study in English, Gr. 9	47
1923	Washington, D. C., Provisional Course of Study in Drawing for J. H. S.	*8	1926	Bisbee, Ariz., Course of Study in English, Grades 1-12	*41
COMMERCIAL EDUCATION				Boise, Idaho, Reading Course of Study, Gr. 7-8	*30
1925	Austin, Tex., Course of Study in Commercial Department	14		Boise, Idaho, English, Gr. 7-8	*14
1925	Baltimore, Md., Commercial Education, J. H. S., S. H. S.	209	1925	Boston, Mass., Course of Study in English, Gr. 7-10, School Document No. 8	117
1925	Bayonne, N. J., Elementary Commercial Problems, J. and S. H. S.	26		Charleston, W. Va., English Course of Study, J. H. S.	*49
1921	Boston, Mass., School Document No. 18, Course of Study in Clerical Practice, Gr. 7-9	51	1926	Charlotte, N. C., Course of Study, J. and S. H. S.	110
1923	Boston, Mass., Course of Study for the High School of Commerce, School Document No. 11	13	1921	Cleveland, Ohio, English, J. and S. H. S.	66
1924	Boston, Mass., School Document No. 7, Outline in Merchandising and Special Syllabus in Salesmanship	87	1924	Cleveland, Ohio, J. and S. H. S. English	178
			1923	Cleveland Heights, Ohio, J. H. S. English	*8

* Mimeographed sheets.

**TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE
1920—Continued**

Year	Title	No. of pages	Year	Title	No. of pages
ENGLISH—contd.			ENGLISH—contd.		
1925	Cleveland Heights, Ohio, J. H. S. English...	*31	1922	Minneapolis, Minn., The H. S. Course in English...	24
	Colorado Springs, Colo., Brief Outline, English, J. H. S.	*3	1927	Missouri State Dept., English, J. and S. H. S. Montclair, N. J., Tentative Course of Study, J. H. S. English...	65
1923	Connecticut State Dept., Manual for Secondary School Libraries...	45			*16
1924	Connecticut State Dept., English, Composition, and Literature, Secondary Schools, Gr. 7-12...	78	1926	New Brunswick, N. J., Tentative Course, English, J. and S. H. S.	*25
		51	1926	New Jersey State Dept., English, Part I, J. H. S.	110
1925	Dayton, Ohio, Course in Expression, Gr. 1-8	55	1926	New York, N. Y., Home Reading for J. H. S.	7
1927	Dayton, Ohio, Library Manual for Gr. 5-8...	209	1926	New York, N. Y., Syllabus of J. H. S. English...	49
1927	Dayton, Ohio, English for Gr. 5-8				15
1927	Dayton, Ohio, Reading and Literature for Gr. 5-8	82		Nutley, N. J., Course of Study, English, Gr. 7-12	
1927	Dayton, Ohio, Spelling for Gr. 5-8	54	1921	Oakland, Calif., Course of Study Series No. 3, Language and Grammar, Gr. 7-9	19
1926	Delaware State Dept., Guide for Credit in Outside Reading by High School Pupils, Grades 7-9	*16	1922	Oakland, Calif., Course of Study Series No. 17, Dictionary Work, Grades H5 and H9	12
1926	Delaware State Dept., Objectives in English I, Grade 9	*5	1924	Oakland, Calif., Course of Study Series No. 70, Book List for J. H. S.	37
1925	Denver, Colo., English, J. H. S., Course of Study Monograph No. 9	241	1926	Oakland, Calif., Course of Study Series No. 94, English, Gr. 7-9	79
	Detroit, Mich., Course of Study in Literature for Intermediate Schools, Gr. 7-9	*6	1923	Oklahoma State Dept., Course of Study in English, J. H. S.	66
	Detroit, Mich., Course in English, Gr. 7-9	94	1926	Oshkosh, Wis., English, Grades 7-8	*56
1926	Detroit, Mich., The Use of the Library, Gr. 7-9	*77	1924	Pennsylvania State Dept., Course of Study in English	60
	East Chicago, Ind., J. H. S. English	*13	1925	Porto Rico, Outline for English, Gr. 5-8	34
1925	Elizabeth, N. J., Outline of English, J. and S. H. S.	25		Pueblo, Colo., English for J. H. S.	*15
1925	Elizabeth, N. J., Spelling Lists for J. H. S. and S. H. S.	15	1926	Roanoke, Va., J. H. S. English	*16
	Fresno, Calif., English in Secondary Schools	*48	1920	Rochester, N. Y., Supplementary Suggestions to Outline in Composition, J. H. S.	*21
1926	Fresno, Calif., Grammar for J. H. S.	*3	1921	Rochester, N. Y., Supplementary Suggestions to Outline in Literature, J. H. S.	*13
	Gary, Ind., Grammar for Grades 9A and 9B	*84		Rochester, N. Y., Suggestive Questions in Literature	*3
1923	Glendale, Calif., Grammar and Composition, Grades 7-8	*11		Rochester, N. Y., General Statement, English, Gr. 7-8	*13
	Hackensack, N. J., English, Academic Department	*16		Rockford, Ill., Tentative Course in J. H. S. English	*15
1923	Harrisburg, Pa., English, Grades 7-12	60		St. Louis, Mo., English, Gr. 7-9, Curriculum Bulletin No. 11	375
1925	Houston, Tex., Composition	*6	1926	St. Paul, Minn., Course of Study in English and Literature, Jr. H. S.	*26
1925	Houston, Tex., Reading	*29		Salt Lake City, Utah, Course of Study in English, Gr. 1-12	102
1926	Houston, Tex., Book Usage Drill Exercises, Gr. 7-8	*15	1923	San Diego, Calif., Course of Study in English	*3
1926	Houston, Tex., Grammar Drill Exercises, Gr. 6-7	*13		San Antonio, Texas, The J. H. S. Libraries, Public Schools Bulletin Vol. III, No. 1	15
1926	Houston, Tex., Punctuation and Capitalization, Drill Exercises	*24	1925	San Francisco, Calif., Tentative Course in English, J. H. S.	*7
	Houston, Tex., Objectives of Language and Grammar	*16	1925	Seattle, Wash., Tentative Course, Oral Language, Gr. 7	14
	Huntington, Va., Dept., of English, Gr. 8	*4		Sioux City, Iowa, Applied English, J. and S. H. S., Tentative Outline	*144
1925	Ithaca, N. Y., English, J. H. S.	*37		Sioux City, Iowa, Applied English, J. H. S.	*33
1925	Janesville, Wis., J. and S. H. S., English Course	274		Sioux City, Iowa, Applied English, Seventh Year, J. H. S.	203
1926	Kalamazoo, Mich., J. H. S. Spelling Results and a Study Determining the Relative Achievements of 40- and 60-minute Study Periods in the J. H. S., Bulletin 39	*14	1926	Sioux City, Iowa, General Circular No. 45	*4
	Kenosha, Wis., Tentative Outline, Grammar, Gr. 7, 8	*3	1926	Sioux City, Iowa, Tentative English Course, Gr. 9-12	*90
	LaCrosse, Wis., Oral Composition, Gr. 7	*25	1927	Sioux City, Iowa, J. H. S. Reading Outline	*28
1922	Lansing, Mich., English, Grades 1-12	107	1924	Somerville, Mass., Course of Study in English, Gr. 9	*4
	Long Beach, Calif., English for J. H. S.	*45		Somerville, Mass., English, Authorized Rules and Definitions	*6
1925	Long Beach, Calif., J. H. S. Reading List, Gr. 7	15		South Orange and Maplewood, N. J., English, J. H. S.	*22
1925	Long Beach, Calif., J. H. S. Reading List, Gr. 8	15	1923	Springfield, Mass., Course of Study, English, J. H. S.	24
1927	Long Beach, Calif., English, Course of Study for J. H. S.	255		Toledo, Ohio, Grammar, Gr. 7, 8	*39
1923	Los Angeles, Calif., Course of Study Monographs No. 22, English	202	1922	Trenton, N. J., Tentative Course, English, Secondary Grades	208
1923	Los Angeles, Calif., Course of Study Monographs No. 32, English for "Z" Pupils	187	1923	Trenton, N. J., Secondary Course of Study, English, Gr. 7-12	*6
1923	Los Angeles, Calif., Course of Study Monographs No. 21, Library Instruction	16	1924	Trenton, N. J., Secondary Course of Study, English, Gr. 7-9	92
	Lynn, Mass., English, J. H. S.	*39		Union City, Tenn., J. H. S. Dept., 7th Gr. English	*5
	Massachusetts State Dept., Preliminary Report, Course of Study, English, J. H. S.	*40			
1920	Minneapolis, Minn., Language, Teaching Difficulties, Method	41			

* Mimeographed sheets.

**TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE
1920—Continued**

Year	Title	No. of pages	Year	Title	No. of pages
ENGLISH—contd.			FOREIGN LANGUAGES—contd.		
	Union City, Tenn., J. H. S. Dept., 8th Gr. English.....	*3	1925	Lynn, Mass., Spanish, Tentative Course, J. H. S.....	*4
	Union City, Tenn., J. H. S. Dept., 9th Gr. English.....	*3	1924	Maine State Dept., Preliminary H. S. Manual, French Syllabus.....	*17
1924	Vermont State, H. S., Course of Study, No. 1, Part II, English.....	64	1921	Maryland State Dept., School Bulletin, Teaching of H. S. French, Vol. 3, No. 6.....	34
1921	Virginia, Minn., Manual No. 2, Suggested Reading for Gr. 7-8.....	115		Massachusetts State Dept., Preliminary Report, Course of Study in Modern Foreign Languages, J. H. S.....	*6
1924	Virginia, Minn., Manual No. 12, Public Speaking, Gr. 7-12.....	7	1927	Massachusetts State Dept., French for the J. H. S.....	16
1924	Virginia State Dept., Vol. 7, No. 1, English, H. S., Gr. 8-12.....	92	1927	Massachusetts State Dept., Latin for the J. H. S. Grades.....	16
1923	Washington, D. C., Provisional Course, English, J. H. S.....	*33		Monessen, Pa., Latin Course, J. and S. H. S.....	*2
	West Hartford, Conn., Introductory Language and Word Study.....	*110		Montclair, N. J., Tentative Course, French, J. H. S.....	*25
1926	Wilmington, Del., Program of Studies, Reading, Gr. 6-8.....	*4		Montclair, N. J., Tentative Course, Latin, J. H. S.....	*5
1921	Wyoming State Dept., Story Telling for Gr. 7-8 of Rural Schools and for H. S. Normal Training Classes.....	12	1927	New Castle, Pa., Latin, Tentative Curriculum.....	*11
	Western Ky. State T. C., A Study in Seventh Grade English.....	*44	1924	New Hampshire State Dept., Program of Studies, Part II, Languages, (English and French) Gr. 7, 8.....	53
FOREIGN LANGUAGES			1924	New Jersey State Dept., Teaching of Foreign Languages in J. and S. H. S., Education Bulletin, Vol. 2, No. 4.....	158
1923	Arlington, Mass., Latin Dept., Course of Study, Gr. 8, 9.....	*3	1925	New York City, N. Y., Syllabus in French, German, Italian, Latin, Spanish, for J. H. S.....	106
1925	Austin, Tex., Course of Study, Foreign Languages, J. and S. H. S.....	15	1923	Oakland, Calif., Course of Study Series No. 15, Spanish, J. and S. H. S.....	16
1921	Baltimore, Md., Teaching of H. S. French, Vol. 3, No. 6.....	34	1924	Oakland, Calif., Course of Study Series No. 12, French, J. and S. H. S.....	28
1924	Baltimore, Md., Latin Course of Study, S. and J. H. S.....	58	1926	Oakland, Calif., Spanish, J. and S. H. S., Superintendent's Bulletin No. 30, Revised.....	30
1925	Baltimore, Md., French Course of Study, S. and J. H. S.....	61	1923	Pennsylvania State Dept., Courses of Study in Foreign Languages, Latin, French, German, Spanish.....	80
1922	Berkeley, Calif., Course of Study Monographs, J. H. S., No. 1, English, History, Science, Mathematics, Foreign Languages.....	132	1924	Philadelphia, Pa., Latin, French, Spanish, and German, J. H. S.....	30
1921	Boston, Mass., Document No. 9, Course of Study in Italian, Gr. 7-9.....	14	1924	Philadelphia, Pa., Suggestions to Teachers, French, Spanish, German, J. H. S.....	16
1923	Boston, Mass., Document No. 17, Course of Study in Latin, Gr. 9-10.....	9	1926	Richmond, Ind., Outline and Syllabus, Foreign Languages, J. and S. H. S.....	*15
1924	Boston, Mass., Document No. 14, Course of Study in French, Gr. 7-12.....	25	1926	Richmond, Ind., Syllabus No. II, Dept. of Foreign Languages.....	*35
1924	Boston, Mass., Document No. 15, Course of Study in Spanish, Gr. 7-12.....	26		San Diego, Calif., French, Two Year Course, J. H. S.....	*2
	Charleston, W. Va., J. H. S. French.....	*22	1924	San Francisco, Calif., Tentative Course, Modern Languages, J. H. S.....	*14
1924	Charleston, W. Va., Latin, J. H. S.....	*26	1925	San Francisco, Calif., Tentative Course of Study in Modern Languages, J. H. S.....	*10
1924	Cleveland Heights, Ohio, Latin, J. H. S.....	*2		San Francisco, Calif., French, J. H. S.....	*23
	Denver, Colo., Course of Study Monograph No. 5, Latin, Gr. 7-9.....	85		San Francisco, Calif., Latin, J. H. S.....	*5
1925	Denver, Colo., Course of Study Monograph No. 15, French, Gr. 8-12.....	276		San Francisco, Calif., Spanish, Grades 7-9.....	*17
1925	Denver, Colo., Course of Study Monograph No. 11, Spanish, Gr. 7-9.....	154	1920	Somerville, Mass., Tentative Course, Latin, J. H. S.....	*3
1926	Detroit, Mich., Foreign Languages, Intermediate and S. H. S.....	96	1925	Somerville, Mass., French, J. and S. H. S.....	*2
1922	Fresno, Calif., Course of Study in Latin.....	*3	1923	Vermont State Dept., Manual and Courses of Study, Part VI, Modern Languages, J. and S. H. S.....	77
1924	Fresno, Calif., Course of Study in French, J. and S. H. S.....	*7	1924	Vermont State Dept., Manual and Courses of Study, Part IX, Latin and Greek, J. and S. H. S.....	47
1926	Fresno, Calif., Course of Study in Latin.....	*6	1924	Virginia State Dept., High Schools of Va., Foreign Languages, Vol. 7, No. 1.....	35
1926	Fresno, Calif., Spanish, J. and S. H. S.....	*12		Washington, D. C., Provisional Course, French, J. H. S.....	*3
1926	Fresno, Calif., German in J. and S. H. S.....	*3		Washington, D. C., Provisional Course, Spanish, J. H. S.....	*5
1926	Fresno, Calif., Course of Study in French.....	*6		Washington, D. C., Provisional Course, Latin, J. H. S.....	*5
	Fresno, Calif., Spanish, J. and S. H. S.....	*5	1926	Wilmington, Del., Program of Studies, Latin Department, H. S.....	*6
	Harrisburg, Pa., J. and S. H. S. Course in Foreign Language, Latin.....	*10	GENERAL COURSES IN CITY SCHOOL SYSTEMS		
1924	Johnstown, Pa., Modern Languages—French and Spanish.....	*12	1922	Ardmore, Okla., Course of Study, J. and H. S.....	39
1925	Lakewood, Ohio, English, French and Latin Courses of Study.....	42			
1922	Lansing, Mich., Courses of Study in Foreign Languages: Latin, Gr. 7-12; French, Gr. 7-12; Spanish, Gr. 11-12.....	47			
1923	Los Angeles, Calif., Course of Study Monograph No. 13, Latin.....	48			
1925	Lynn, Mass., French, Tentative Course, J. H. S.....	*6			

* Mimeographed sheets.

**TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE
1920—Continued**

Year	Title	No. of pages	Year	Title	No. of pages
GENERAL COURSES IN CITY SCHOOL SYSTEMS—contd.			GENERAL COURSES IN CITY SCHOOL SYSTEMS—contd.		
1921	Amarillo, Tex., Course of Study, Rules and Regulations, J. and S. H. S.	39	1922	Sioux City, Iowa, Course of Study Drills, J. H. S.	*22
1926	Athens, Ohio, Brief Statements of Aims, Methods and Content of the Courses in the J. H. S.	*69	1923	South Bend, Ind., J. H. S. Course of Study.	15
1922	Austin, Tex., Course of Study for H. S.	87	1921	Springfield, Mass., The J. H. S. Course of Study.	8
1921	Berkeley, Calif., The Course of Study in the Work of the Modern School.	14	1927	Springfield, Mass., Proposed J. H. S. Program.	*35
1921	Boston, Mass., School Document No. 2, Statement of Principles and Procedures Affecting Grades 7-12 in the Reorganized Plan of Secondary Instruction.	31	1926	Toropoli, Nev., Curriculum Study, Gr. 7-12.	*35
1925	Boston, Mass., School Document No. 3, Organization and Administration of Intermediate Schools.	40	1926	Vallejo, Calif., Course of Study, Geo. Washington J. H. S.	156
1926	Boston, Mass., School Document No. 17, Provisional Curricula for General High Schools.	27	1923	Warren, Ohio, Courses of Study for the Warren High Schools.	*20
1926	Bryan City, Tex., Course of Study, Gr. 8-11.	*4	1923	Washington, D. C., Plan of Organization of J. H. S.	*7
1926	Bryan City, Tex., Course of Study, High Schools.	*12	GENERAL COURSES IN STATE SCHOOL SYSTEMS		
1926	Bryan City, Tex., Course of Study, J. and S. H. S.	*31	1924	Arkansas, Course of Study for J. H. S.	49
1926	Chippewa Falls, Wis., Course of Study, Gr. 7-9.	*1	1926	Colorado State Dept., Course of Study for Public Schools, Vol. 11, Outline for J. H. S.	255
1926	Charleston, West Va., Organization and Administration and Courses of Study for J. and S. H. S.	301	1920	Idaho, Manual and Course of Study, J. and S. H. S.	155
1925	Charlotte, N. C., Course of Study, J. and S. H. S.	111	1925	Kansas State Dept., J. H. S. Manual.	43
1926	Charlotte, N. C., Supplementary Course of Study, Home Economics, Spanish, History, Health, and Art, J. and S. H. S.	80	1925	Louisiana, Course of Study and Manual, J. and S. H. S.	108
1924	Columbus, Ohio, J. H. S. Course of Study.	1	1921	Massachusetts State Dept., J. H. S. Manual.	60
1925	Elizabeth, N. J., Course of Study, J. and S. H. S.	16	1923	Michigan, Manual and Course of Study, J. and S. H. S.	133
1920	Fort Wayne, Ind., Course of Study, J. H. S., Bulletin No. 5.	95	1925	Missouri State Dept., Courses of Study, Bulletin No. 1, J. and S. H. S.	132
1926	Hannibal, Mo., Course of Study, H. S., J. H. S., and Elem.	112	1923	Nebraska, Normal Training High Schools, Course of Study.	65
1925	Highland Park, Mich., High School Yearbook.	77	1925	Pennsylvania State Dept., Bulletin No. 14, Manual for J. H. S.	110
1924	Holton, Kans., Course of Study, J. H. S.	*3	1923	Utah State Dept., Course of Study, J. H. S.	120
1925	Johnstown, Pa., The Junior and Senior High Schools.	39	1927	Utah State Dept., J. H. S. Organization and Administration.	72
1921	Kalamazoo, Mich., Course of Study and Manual of Instruction, Book IV, J. and S. H. S.	89	1923	Virgin Islands, Course of Study for the J. H. S., Gr. 7-9.	86
1924	Kent, Ohio, Course of Study, J. H. S.	*45	1921	West Virginia State Dept., Course of Study for J. and S. H. S.	191
1920	Laurel City, Miss., Course of Study, J. and S. H. S.	88	1926	West Virginia State Dept., Organization, Administration and Courses of Study for J. and S. H. S.	301
1926	Lexington, Ky., Course of Study, J. and S. H. S.	55	1927	West Virginia State Dept., Organization, Administration and Courses of Study for J. and S. H. S. (Revised Edition).	417
1926	Lincoln, Nebr., Curriculum and Building Needs in the H. S., Report No. 8, Supt. of Schools.	24	1924	Wisconsin, Manual for the High Schools of Wisconsin.	195
1923	Lorain, Ohio, Course of Study for J. H. S.	*73	HEALTH AND PHYSICAL EDUCATION		
1923	Macomb, Ill., Course of Study, J. H. S.	*17	1926	Baltimore, Md., Hygiene Course of Study, J. H. S.	84
1924	Muncie, Ind., Course of Study, J. and S. H. S.	47	1923	Berkeley, Calif., Physical Education, including Hygiene, Elementary and J. H. S.	63
1924	New Hampshire State Dept., Program of Studies, Grades VII and VIII, Administration.	30	1920	Boston, Mass., Physical Education for Latin and Day High Schools and for Ninth Grade in Intermediate Schools.	34
1927	Newton, Mass., J. and S. H. S. Curricula Offerings.	29	1926	Boston, Mass., Physical Education for the Day Elementary and Day Intermediate Schools.	216
1925	Nutley, N. J., Bulletin No. 2, J. and S. H. S.	27	1923	Charleston, W. Va., Health and Physical Education.	17
1925	Nutley, N. J., Bulletin No. 4, J. and S. H. S.	38	1921	Charleston, W. Va., Physical Training and Health—J. H. S.	*20
1926	Oakland, Calif., Handbook for Course of Study Committees.	55	1926	Cleveland, Ohio, Course of Study, Hygiene, J. H. S.	16
1925	Pittsfield, Mass., Courses of Study, J. H. S.	*81	1926	Detroit, Mich., Athletic Manual of the High Schools, 1926-1927.	54
1926	Plainview, Tex., Directory, Course of Study, Rules and Regulations.	75	1924	Duluth, Minn., Physiology and Home Nursing, Gr. 7.	15
1924	Richmond, Va., Course of Study, J. H. S.	148	1923	Fort Wayne, Ind., Physical Education, Graded Schools.	7
1921	Salt Lake City, Utah, Syllabus of Course of Study, J. and S. H. S.	54	1924	Harrisburg, Pa., Physical Education, J. and S. H. S.	*6
1925	Salt Lake City, Utah, Courses in J. and S. H. S.	11	1923	Harrisburg, Pa., Hygiene, J. and S. H. S.	*4
1926	Santa Monica, Calif., Program of Studies, J. H. S.	5	1923	Harrisburg, Pa., Hygiene, J. and S. H. S. (Supplementary Course).	*6
1926	Shorewood (Milwaukee), Wis., Course of Study, J. and S. H. S.	*99	1925	Harrisburg, Pa., J. and S. H. S. Physical Education.	*10
			1925	Ithaca, N. Y., Health Education in the Ithaca Public Schools.	10

* Mimeographed sheets.

TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE 1920—Continued

Year	Title	No. of pages	Year	Title	No. of pages
HEALTH AND PHYSICAL EDUCATION contd.			HOME ECONOMICS—contd.		
1923	Kenosha, Wis., Physical Education, J. H. S.	*19	1924	Bayonne, N. J., Domestic Science, Household Arts, Manual Training and Industrial Arts, J. H. S.	55
	Kenosha, Wis., Physical Education, J. H. S.	*12		Boston, Mass., Household Science for Academic, Commercial, and Practical Arts Sections of Intermediate Schools, School Document No. 9.	140
1922	Massachusetts State Dept. of Education, Physical Education, Manual for Teachers in Elem. and J. H. S.	14	1926	Boston, Mass., Outline of Instruction in Household Arts, Gr. 7-9.	79
1924	Massachusetts State Dept. of Education, Physical Education in the J. and S. H. S.	104	1926	Charleston, W. Va., Home Economics, J. H. S.	*67
1925	Missouri State Dept. of Education, Physical Education in J. and S. H. S.	64	1921	Cleveland, Ohio, Course of Study, Home Economics, J. H. S.	12
1925	Missouri State Dept. of Ed., Physical Education Syllabus, Part II.	212	1925	Denver, Colo., Research Monograph No. 1, Home Economics.	71
1924	New Jersey State Dept., Course of Study, Physical Education.	73	1925	Denver, Colo., Course of Study Monograph No. 12, Home Economics, J. H. S., Gr. 7-9.	135
1923	Oakland, Calif., Physical Education for J. H. S.	47	1922	Detroit, Mich., Course of Study, Domestic Science, Intermediate Grades.	40
1923	Oakland, Calif., Rules for Athletic Games, Gr. 3-9.	72	1926	Detroit, Mich., Recipes for Instruction in Domestic Science, Elem. and Intermediate Grades.	72
1923	Oshkosh, Wis., Syllabus of Games, Physical Education, Gr. 7, 8.	34	1924	Duluth, Minn., Physiology and Home Nursing, Gr. 7.	15
	Oshkosh, Wis., Syllabus of Games, Physical Education, Gr. 7, 8.	*22		Duluth, Minn., Food Study, Gr. 7.	15
1923	Pennsylvania State Dept., School Health, Physical Education, Gr. 1-8.	289	1924	Duluth, Minn., Foods and Cookery, Gr. 9.	21
1923	Pennsylvania State Dept., School Health, Hygiene and Physiology, Grades 9-12.	148	1924	Duluth, Minn., Garment Making, Gr. 7.	13
1926	Philadelphia, Pa., Course in Health Education, J. H. S., Gr. 7-9.	46	1924	Duluth, Minn., Related Art, Gr. 9.	17
1923	Rochester, N. Y., Athletics and Stunts, J. H. S. Girls.	*6	1925	Duluth, Minn., Elementary Dressmaking, Gr. 9.	*12
	Rochester, N. Y., Athletics, Stunts and Tumbling, J. H. S. Boys.	*10	1925	Duluth, Minn., Foods, Gr. 8.	*6
1923	Rochester, N. Y., Folk Dancing for J. H. S. Girls.	*3	1925	Duluth, Minn., Garment Making and Study of Clothing, Gr. 8.	*11
	Rochester, N. Y., Formal Gymnastics for J. H. S.	*5	1925	Duluth, Minn., Housekeeping, Gr. 7.	*4
1923	Rochester, N. Y., Formal Gymnastics, J. H. S. Boys.	*8	1925	Duluth, Minn., Textiles, Gr. 7.	*5
	Rochester, N. Y., Formal Gymnastics, J. H. S. Girls.	*12	1925	Florida State Dept., Course of Study in Home Economics.	*6
1923	Rochester, N. Y., Games, J. H. S. Boys.	*3	1923	Indiana State Dept., Bulletin 65, Home Economics Course of Study.	51
	Rochester, N. Y., Gymnastic Dancing, J. H. S. Boys.	*9	1925	Lakewood, Ohio, Home Economics and Manual Arts.	37
1923	Rochester, N. Y., Health Topics, J. H. S. Girls.	*3	1922	Lansing, Mich., Course of Study, Home Economics, Gr. 5-12.	58
	Rochester, N. Y., Marching Tactics and Maze Running, J. H. S. Boys.	*8	1924	Los Angeles, Calif., Course of Study Monographs, Home Economics.	120
1923	Rochester, N. Y., Maze Running, J. H. S. Boys.	*7	1925	Louisiana State Dept., Home Economics.	71
	Rochester, N. Y., Rhythmic Exercises and Mimetics, J. H. S. Girls.	*4	1925	Lynn, Mass., Home Economics, Tentative Course, Gr. 7-9.	*17
1926	Rochester, N. Y., Schedule of Athletic and Recreational Activities, J. H. S.	*11	1920	Madison, Wis., Course of Study Suggestions for Teaching Homemaking in the Grades and High School.	39
1926	St. Louis, Mo., Health for the H. S., Bulletin No. 33.	89	1922	Maryland State Dept., Tentative Suggestions, Teaching of General and Vocational Home Economics.	*30
1925	San Francisco, Calif., Physical Training Activities.	*6		Minnesota State Dept., H. S. Curriculum, Bulletin No. 10, Home Economics.	120
	San Francisco, Calif., Physical Education for the J. H. S.	*14	1926	Missouri State Dept., Home Economics Syllabus, Bulletin No. 6, for J. and S. H. S.	137
1922	Trenton, N. J., Elementary Course of Study, Hygiene.	82	1925	Monessen, Pa., Cooking, J. H. S.	*2
1923	Trenton, N. J., Report of Committee, Elem. Course, Hygiene.	18		Monessen, Pa., Home Planning, J. H. S.	*14
1924	Virginia State Dept., Course of Study, H. S. Phy. Ed.	113	1925	Montclair, N. J., Home Economics, J. and S. H. S.	*9
1923	Washington, D. C., Physical Training for J. H. S.	*9	1925	New Brunswick, N. J., Tentative Course, Home Economics, J. and S. H. S.	*12
1925	W. Va. State Dept., Manual of Physical Education.	195	1921	New York, N. Y., Cooking; with a Syllabus by the Board of Superintendents.	28
HOME ECONOMICS			1921	New York, N. Y., Sewing and Constructive Work for Elem. and J. H. S.	16
1924	Albany, N. Y., University of the State of New York Bulletin, Syllabus, Homemaking and Home Economics.	77	1924	New York State Dept., Syllabus for Home Making and Home Economics.	77
1923	Austin, Tex., State Board for Vocational Education, Vocational Home Economics, Rural and Small High Schools.	69	1922	Oakland, Calif., Course of Study, Home Economics.	45-65
1925	Austin, Tex., Home Economics, Gr. 7-12.	62	1924	Oakland, Calif., Course of Study, Home Economics.	43
1925	Baltimore, Md., Home Economics Education, Elem., J. and S. H. S.	168	1924	Oakland, Calif., Course of Study Series No. 30, Home Economics, Clothing Section.	24
			1924	Oklahoma State Dept., Course of Study, Home Economics.	98

* Mimeographed sheets.

**TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE
1920—Continued**

Year	Title	No. of pages	Year	Title	No. of pages
HOME ECONOMICS—contd.			INDUSTRIAL ARTS—contd.		
1925	Pennsylvania State Dept., Bulletin No. 9, Home Economics Education, J. and S. H. S.	122	1923	Detroit, Mich., Mechanical Drawing, High Schools, Elementary Projection, Developments, Sheet Metal Drafting.	41
1926	Portland, Maine, Home Economics.	88	1923	Detroit, Mich., Opportunities and Requirements in Local Occupations, Part II.	101
1923	Porto Rico, Spanish, "Curso De Estudios En Castura, Calado y Bordado" (Sewing), J. and S. H. S.	12	1923	Detroit, Mich., Opportunities and Requirements in Local Occupations, Part III.	111
1925	Pueblo, Colo., Outline of Course of Study in Home Economics, J. H. S.	22	1924	Detroit, Mich., Auto Mechanics Lesson Sheets.	104
	Rockford, Ill., Household Arts, Relation of Costume Design to Fine Arts.	*2	1924	Detroit, Mich., Mechanical Drawing, Intermediate and H. S.	51
	Rockford, Ill., Tentative Course, Household Arts.	*36	1925	Detroit, Mich., Specifications for Architectural Drawing, J. H. S.	59
1926	St. Louis, Mo., Home Economics, Gr. 7-9, Curriculum Bulletin No. 19.	85	1926	Detroit, Mich., Mechanical Drawing Standards and Conventions, J. H. S.	44
	San Diego, Calif., Course of Study for Home Economics, Dept. of J. and S. H. S.	22	1924	Duluth, Minn., Electricity, Gr. 8.	13
	San Francisco, Calif., Clothing, Gr. 8A.	*9	1924	Duluth, Minn., Forging, Gr. 7.	10
1925	San Francisco, Calif., Tentative Course, Home Economics, J. H. S.	*14	1924	Duluth, Minn., Mechanical Drawing, Gr. 9.	14
	Tennessee State Dept., Two-year Course, Home Economics, Co. H. S.	41	1924	Duluth, Minn., Machine Woodwork, Gr. 9.	10
1923	Texas State Dept., Suggested Outlines for Study of Vocational Home Economics in Rural and Small High Schools.	69	1924	Duluth, Minn., Printing, Gr. 8.	12
1923	Vermont State Dept., Manual and Courses of Study Part V, Home Economics, J. and S. H. S.	54	1924	Duluth, Minn., Sheet Metal, Gr. 7.	10
1923	Washington, D. C., Provisional Course of Study in Domestic Science for J. H. S.	*7	1924	Duluth, Minn., Wood Turning, Gr. 7.	9
1923	Washington, D. C., Domestic Art, J. H. S.	*4	1924	Duluth, Minn., Woodwork, Gr. 7.	9
1926	West Allis, Wis., Suggestive Curriculum, Home Economics, Clothing, J. and S. H. S.	*22	1922	Florida State Dept., Plan for Vocational Education, 1922-27.	39
INDUSTRIAL ARTS			1927	Fresno, Calif., Agriculture, J. and S. H. S.	*4
1925	Arlington, Mass., Mechanical Drawing, J. H. S.	*5	1927	Fresno, Calif., Smith-Hughes Shop Courses.	*28
1925	Austin, Tex., Course of Study in Manual Training, J. H. S.	60	1927	Fresno, Calif., J. H. S., Industrial Education.	*39
1926	Baltimore, Md., Industrial Arts Education, J. H. S.	121	1925	Harrisburg, Pa., J. and S. H. S., Practical Arts.	*20
1923	Berkeley, Calif., Industrial Education, Course of Study Monographs, No. 8, Gr. 4-12.	143	1925	Ithaca, N. Y., Manual Arts, J. H. S.	*27
1923	Berkeley, Calif., Prevocational Industrial Education, Gr. 7-9.	44	1925	Jersey City, N. J., Printing in the J. H. S. (Education Dept., American Type Founders Company).	24
1920	Boston, Mass., Special Syllabus, Shop Work, Gr. 6-9.	28	1925	Johnstown, Pa., Industrial Arts, J. H. S.	53
1924	Boston, Mass., School Document No. 14, Drawing, Manual Training, Gr. 4-8.	75	1921	Kalamazoo, Mich., Course of Study, Book V, Art and Industrial Arts, Gr. 2-12.	90
1925	Boston, Mass., School Document No. 16, Shopwork, Manual Training, Mechanic Arts, Prevocational, Gr. 6-8.	35		Kenosha, Wis., Manual Training, J. H. S.	*5
1923	Cincinnati, Ohio, Industrial Arts, Gr. 5-8.	41		Kenosha, Wis., Printing, J. H. S.	*2
	Colorado Springs, Colo., Woodworking and Mechanical Drawing, J. H. S.	*1	1923	LaCrosse, Wis., Educational Guidance, J. H. S.	*38
1924	Columbus, Ohio, Course of Study in Mechanical Drawing, J. and S. H. S.	*23	1923	Lorain, Ohio, Course of Study, J. H. S.	73
1923	Connecticut State Dept., Suggestions, Educational Guidance, Secondary Schools, Emphasizing the Life Career Motive.	41	1923	Los Angeles, Calif., School Publication No. 65, Electricity.	159
1922	Detroit, Mich., Automobile Mechanics, Try-Out Course, Industrial Course for Intermediate Schools.	20	1923	Los Angeles, Calif., School Publication No. 64, Printing.	105
1922	Detroit, Mich., Bench Work in Wood, Gr. 6-7.	11	1923	Los Angeles, Calif., School Publication No. 67, Agriculture.	135
1922	Detroit, Mich., Electrical Work for Intermediate Schools and Technical H. S.	12	1923	Los Angeles, Calif., School Publication No. 68, Auto Electrics.	61
1922	Detroit, Mich., Pattern Making, J. H. S.	12	1923	Los Angeles, Calif., School Publication No. 69, Carpentry and Mill Cabinet Work.	60
1922	Detroit, Mich., Mechanical Drawing, Perspective Sketching.	25	1923	Los Angeles, Calif., School Publication No. 79, Machine Shop Practice.	128
1922	Detroit, Mich., Elementary Bookbinding, Book Repair and Rebinding.	68	1923	Los Angeles, Calif., Cabinet Making.	52
1922	Detroit, Mich., Tool Exercises and Working Directions, Elem. Shop Work in Wood.	24	1925	Lynn, Mass., Tentative Course, Civics and Vocations.	*13
1923	Detroit, Mich., Mechanical Drawing, Intermediate and H. S.	26	1925	Lynn, Mass., Tentative Course, Industrial Arts.	*16
			1926	Missouri State Dept., Industrial Subjects, J. and S. H. S., Bulletin No. 4.	50
			1927	Missouri State Dept., General Agriculture, J. and S. H. S.	109
			1924	New Hampshire State Dept., Program of Studies, Part V, Practical Arts, Gr. 7, 8.	30
			1922	Oakland, Calif., Related Drawing for Smith-Hughes Classes.	7
			1922	Oakland, Calif., Machine Shop for Smith-Hughes Classes, Course of Study Series No. 9.	7
			1922	Oakland, Calif., Pattern Making and Cabinet Making, Course of Study Series No. 9.	7
			1922	Oakland, Calif., Course of Study Series No. 26, Occupations, H-8 and L-9.	12
			1922	Oakland, Calif., Course of Study Series No. 31, Shop Mathematics and Elementary Mechanics for Continuation Classes.	5
			1922	Oakland, Calif., Course of Study Series No. 32, Drawing for Continuation Classes.	6

* Mimeographed sheets.

TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE 1920—Continued

Year	Title	No. of pages	Year	Title	No. of pages
INDUSTRIAL ARTS—contd.			MATHEMATICS—contd.		
1922	Oakland, Calif., Course of Study Series No. 33, Auto Repair in Vocational Continuation School.	5		Hackensack, N. J., Mathematics, Manual Arts Course, J. H. S.	*7
1922	Oakland, Calif., Course of Study Series No. 34, Cabinet Work for Continuation Classes.	5		Harrisburg, Pa., General Outline in Mathematics, J. H. S.	*9
1922	Oakland, Calif., Course of Study Series No. 36, Oxygen-Acetylene Welding and Cutting for Continuation Classes.	3		Harrisburg, Pa., J. and S. H. S. Mathematics, Huntington Park, Calif., Syllabus for Arithmetic, Gr. 7, 8.	*32
1922	Oakland, Calif., Course of Study Series No. 38, Electric Work for Continuation Classes.	6	1924	Kenosha, Wis., Algebra, Gr. 8, 9.	*10
1922	Oakland, Calif., Course of Study Series No. 39, Forging for Continuation Classes.	6	1923	Kenosha, Wis., Arithmetic, Gr. 7, 8.	*5
1923	Oakland, Calif., Mechanical Drawing for H. S.	*18		Los Angeles, Calif., Course of Study Monographs No. 27, Supplementary Problems in Algebra.	*4
1924	Oakland, Calif., Course of Study Series No. 20, Sheet Metal Work, J. H. S.	*13	1925	Lynn, Mass., Mathematics, Tentative Course, J. H. S.	37
1924	Oakland, Calif., Course of Study Series No. 47, Agriculture for J. H. S.	31	1925	Maryland State Dept., School Bulletin, Notes on Teaching of H. S. Mathematics.	*6
1925	Oakland, Calif., Course of Study Series No. 19, Woodwork, Elem. and J. H. S.	8		Massachusetts State Dept., Preliminary Report, Course of Study in Arithmetic, J. H. S. Grades.	40
1925	Pennsylvania State Dept., General Bulletin on Guidance.	123	1926	Massachusetts State Dept., Course of Study in Mathematics, J. H. S. Grades.	*10
1925	Pennsylvania State Dept., Industrial Arts Education, Gr. 7-9, Bulletin No. 4.	42		Montclair, N. J., Tentative Course, Mathematics, J. H. S.	32
1925	Pennsylvania State Dept., Agriculture, Gr. 7-12, Bulletin No. 15.	57	1924	New Hampshire State Dept., Program of Studies, Part III, Mathematics and General Science, Gr. 7, 8.	*22
1925	St. Cloud, Minn., Manual Arts in the J. H. S.	301	1921	New York, N. Y., Lincoln School of Teachers College, Program of Investigation and Cooperative Experimentation in Mathematics, Gr. 7-9.	34
1925	San Diego, Calif., Course of Study for Industrial Arts Dept., J. H. S.	32		New York State Dept., Syllabus in Algebra.	264-275
1925	San Francisco, Calif., Tentative Course, Industrial Arts, J. H. S.	*4		Norfolk, Va., Mathematics, J. H. S.	12
	San Francisco, Calif., Work with Everyday Machines, 8B Grade.	*6	1925	Oakland, Calif., Mathematics as a Related Subject for Smith-Hughes Work.	*14
	Scotia, N. Y., Vocational Guidance Syllabus, J. H. S.	*23	1927	Oakland, Calif., Mathematics for J. H. S.	87
1924	Somerville, Mass., Woodworking Course, J. H. S.	*14	1926	Oak Park, Ill., National Council of Teachers of Mathematics, First Yearbook, Survey of Progress in the Last Twenty-Five Years.	210
	Virginia, Minn., Manual No. 20, Automobile Repairing.	36	1922	Oklahoma City, Okla., Oklahoma Education Association, Recommended Course of Study, Mathematics, J. H. S.	86
1923	Washington, D. C., Provisional Course, Printing, J. H. S.	*3	1925	Oklahoma State Dept., Mathematics, J. and S. H. S.	71
1926	West Allis, Wis., Suggestive Curriculum, Industrial Arts, Electricity, J. H. S.	*14	1924	Pennsylvania State Dept., Course of Study in Mathematics, Gr. 7-12.	39
1926	West Allis, Wis., Suggestive Curriculum, Industrial Arts, Woodwork, J. H. S.	*13	1926	Philadelphia, Pa., Mathematics, Outline of Course of Study for J. H. S. Grades.	56
MATHEMATICS				Pueblo, Colo., Mathematics, Outline of Course of Study for J. H. S. Grades.	*4
1925	Austin, Tex., Course of Study in Mathematics, H. S.	23		Rochester, N. Y., Drill and Mental Problems, Gr. 7.	*9
1924	Baltimore, Md., Mathematics, J. and S. H. S.	169		Rochester, N. Y., Report of Committee on J. H. S. Mathematics.	*16
1924	Bayonne, N. J., Mathematics, J. and S. H. S.	54	1925	San Francisco, Calif., Tentative Course, Mathematics, J. H. S.	*8
	Boise, Idaho, Arithmetic, Gr. 7, 9.	*3	1923	Sioux City, Iowa, Mathematics Course of Study, J. H. S. and Gr. 10.	*22
1923	Boston, Mass., School Document No. 19, Mathematics, Gr. 7-9.	25	1926	St. Louis, Mo., Mathematics for Gr. 7-9, Curriculum Bulletin No. 12.	117
	Charleston, W. Va., Mathematics, J. H. S.	*54		Sioux City, Iowa, Mathematics, J. H. S.	*17
1922	Chicago, Ill., Illustrated Manual, Mathematics, Gr. 7, 8, Bulletin No. 23.	178	1927	Sioux City, Iowa, Tentative Math. Course, Gr. 7-11.	*120
1922	Cleveland, Ohio, Mathematics, J. H. S.	45	1923	Somerville, Mass., Course of Study, Mathematics, Gr. 7, 8.	*2
	Colorado Springs, Colo., Course in Mathematics, J. H. S.	*5		South Orange and Maplewood, N. J., Mathematics, Gr. 7-9.	7
1927	Dayton, Ohio, Mathematics for Gr. 5-8.	186		Sterling, Colo., Mathematics, J. H. S.	*8
1926	Denver, Colo., Course of Study Monograph, No. 17, Mathematics, Gr. 7-9.	101		Superior, Wis., J. H. S. Mathematics.	*4
1924	Detroit, Mich., Course of Study, Arithmetic, Gr. 2-8.	142		Toledo, Ohio, Arithmetic, J. H. S.	*24
1926	Detroit, Mich., Intermediate School Mathematics, Gr. 7-9.	84	1923	Trenton, N. J., Secondary Course of Study, Mathematics, Gr. 7-9.	118
1926	Fresno, Calif., Mathematics for J. and S. H. S.	90	1924	Vermont State Dept., Manual and Courses of Study, Part 10, Mathematics, J. and S. H. S.	48
1923	Glendale, Calif., Arithmetic, Gr. 7, 8.	*5	1924	Virginia State Dept., Course of Study, Mathematics, J. and S. H. S.	25
	Hackensack, N. J., Mathematics, Academic, J. H. S.	*9	1923	Washington, D. C., Provisional Course, Mathematics, J. H. S.	*12
	Hackensack, N. J., Mathematics, Commercial, J. H. S.	*5			

* Mimeographed sheets.

**TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE
1920—Continued**

Year	Title	No. of pages	Year	Title	No. of pages
MUSIC			SCIENCE—contd.		
1922	Akron, Ohio, Course of Study in Music.....	30	1922	Boston, Mass., General Science for Intermediate Classes, Document No. 7, Pamphlet No. 10, Fire.....	25
1924	Bayonne, N. J., Course of Study, Fine Arts and Crafts, Music, J. H. S.....	74	1922	Boston, Mass., General Science for Intermediate Classes, Document No. 8, Pamphlet No. 11, Heat.....	19
	Cleveland Heights, Ohio, Course in Music, Gr. 7-9.....	*6	1922	Boston, Mass., General Science for Intermediate Classes, Document No. 9, Pamphlet No. 12, Sound.....	18
1927	Fresno, Calif., Course of Study, Music, J. and S. H. S.....	*24	1922	Boston, Mass., General Science for Intermediate Classes, Document No. 13, Pamphlet No. 3, Astronomy.....	23
	Harrisburg, Pa., J. and S. H. S. Music.....	*13	1922	Boston, Mass., General Science for Intermediate Classes, Document No. 14, Pamphlet No. 14, Yeasts, Molds, and Bacteria.....	17
1924	Iowa City, Iowa, University of Iowa Extension Bulletin, Series No. 2, Courses of Study in Music.....	35	1923	Boston, Mass., General Science for Intermediate Classes, Document No. 3, Pamphlet No. 1, Organization.....	29
	Kenosha, Wis., Music, J. H. S.....	*3	1923	Boston, Mass., General Science for Intermediate Classes, Document No. 4, Pamphlet No. 2, Nature Study.....	22
1922	Lansing, Mich., Course of Study in Music, Gr. 1-12.....	35	1923	Boston, Mass., General Science for Intermediate Classes, Document No. 5, Pamphlet No. 4, A Study of Food.....	23
1927	Long Beach, Calif., Stories of Orchestral Instruments, Famous Composers and Operas.....	79	1923	Boston, Mass., General Science for Intermediate Classes, Document No. 6, Pamphlet No. 5, Gardening.....	47
1923	Los Angeles, Calif., Course of Study Monograph No. 18, Music.....	68	1923	Boston, Mass., General Science for Intermediate Classes, Document No. 7, Pamphlet No. 6, Clothing and Building Materials.....	17
1925	Missouri State Dept., Courses of Study, Bulletin No. 3, Music Syllabus, J. and S. H. S.....	45	1923	Boston, Mass., General Science for Intermediate Classes, Document No. 8, Pamphlet No. 7, A Study of Water.....	23
1925	Oakland, Calif., Course of Study Series No. 75, Music, J. H. S.....	34	1923	Boston, Mass., General Science for Intermediate Classes, Document No. 9, Pamphlet No. 13, A Study of Electricity.....	*18
1923	Pennsylvania State Dept., Course of Study in Music, Elem. and J. H. S.....	39	1924	Charleston, W. Va., General Science, J. H. S. Cleveland, Ohio, Manual for General Science, Gr. 9.....	15
1924	Pennsylvania State Dept., Course of Study, Music, Elem. and H. S.....	42	1924	Columbus, Ohio, General Science, Gr. 8.....	16
1927	Pittsburgh, Pa., Course of Study in Music, Junior-Senior Divisions, Bulletin No. 9.....	44	1924	Denver, Colo., Course of Study Monograph No. 2 General Science, Gr. 7, 8; Biology, Gr. 9.....	77
1925	San Francisco, Calif., Tentative Course, Music, J. H. S.....	*12	1925	Emporia, Kansas, Curriculum Building Illustrated by J. H. S. Biology.....	44
1924	South Bend, Ind., Some of the Things the South Bend Public Schools are Doing in Art and Music.....	52	1926	Fresno, Calif., Course of Study, Agriculture, J. and S. H. S.....	*4
1920	Stamford, Conn., Aims and Outlines for Teaching Music, J. and S. H. S.....		1926	Fresno, Calif., Science Course of Study in Secondary Schools.....	*52
1923	Vermont State Dept., Course in Music, J. and S. H. S.....			Hackensack, N. J., Course of Study, Elementary Science, J. H. S.....	51
	Vermont State Dept., Manual and Courses, Part IV, Music and Art.....			Harrisburg, Pa., Outline, General Science, Gr. 7, 9.....	*15
1924	Virginia State Dept., Course of Study, H. S. Music.....		1925	Jamestown, N. Y., Syllabus, General Science, J. H. S.....	*3
1926	Wilmington, Del., Program of Studies in Music, Gr. 6-8.....	*5		Kenosha, Wis., Course of Study, Physiology, J. H. S.....	*3
PENMANSHIP				Kenosha, Wis., Supplement to Course of Study J. H. S.....	*5
	Binghamton, N. Y., Course in Writing, Gr. 7, 8.....		1923	Los Angeles, Calif., Course of Study Monographs, No. 30, Biology, J. H. S.....	154
	Charleston, W. Va., Penmanship Course of Study, Gr. 7-8.....	*14	1923	Los Angeles, Calif., Course of Study Monographs, No. 26, General Science, J. H. S.....	62
	Elizabeth, N. J., Penmanship Syllabus, Elem. and J. H. S.....	*4	1924	Los Angeles, Calif., Course of Study Monographs, Physical Science, J. H. S.....	71
	Kenosha, Wis., Penmanship, J. H. S.....	*2	1924	Los Angeles, Calif., Course of Study Monographs, Upper Grades, Physical Science.....	64
1924	Long Beach, Calif., Course of Study, Penmanship, J. and S. H. S.....	20		Lynn, Mass., General Science, Tentative Course, J. H. S.....	*6
1925	Oakland, Calif., Business Penmanship for J. and S. H. S., Course of Study Series No. 74.....	20	1925	Maine State Dept., Preliminary H. S. Manual, Science Syllabus.....	*20
1923	Washington, D. C., Provisional Course, Penmanship, J. H. S.....	16	1921	Maryland State Dept., Maryland School Bulletin, Vol. 3, No. 10, Teaching of H. S. Biology.....	20
1926	Wilmington, Del., Program of Studies, Handwriting, Gr. 6-8.....	*8	1921	Maryland State Dept., Maryland School Bulletin, Vol. 3, No. 9, Teaching of H. S. Physics.....	25
SCIENCE					
1927	Austin, Tex., Course of Study in Science.....	87			
1924	Baltimore, Md., Science, J. and S. H. S.....	216			
	Bayonne, N. J., Course of Study in Science, J. and S. H. S.....	52			
1926	Berkeley, Calif., University of California, Northern California, Conference on Science Teaching.....	*27			
1922	Boston, Mass., General Science for Intermediate Classes, Document No. 5, Pamphlet No. 8, A Study of Air and Ventilation.....	17			
1922	Boston, Mass., General Science for Intermediate Classes, Document No. 6, Pamphlet No. 9, A Study of the Weather.....	19			

* Mimeographed sheets.

**TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE
1920—Continued**

Year	Title	No. of pages	Year	Title	No. of pages
SCIENCE—contd.			SOCIAL STUDIES—contd.		
1927	Missouri State Dept., Science Syllabus, J. and S. H. S.	139	1925	Cleveland, Ohio, Evaluating Social Science Objectives	17
	New York, N. Y., Course of Study and Syllabus in Science	40		Cleveland Heights, Ohio, History, Gr. 7	*4
1925	New York, N. Y., Science, Gr. 7, References to Bedford's General Science	16		Colorado Springs, Colo., Course in Social Science, J. H. S., Gr. 7	10
1925	New York, N. Y., Science, Gr. 8, References to Bedford's General Science	16	1922	Connecticut State Dept., A Manual of the Social Studies for Secondary Schools, Gr. 7-12	47
1925	New York State Dept., Syllabus in General Science	89	1927	Dayton, Ohio, The Social Studies for Gr. 5-8	427
	Norfolk, Va., General Science, J. H. S.	*24	1927	Dayton, Ohio, Extra-Socializing Activities for Gr. 5-8	25
1923	Oakland, Calif., Course of Study Series No. 21, Science, Gr. 7-9	94	1924	Denver, Colo., Course of Study Monograph No. 3, Social Science Gr. 7-9	171
1923	Oakland, Calif., Course of Study Series No. 52, Science as a Related Subject in Smith-Hughes Courses	*27	1926	Denver, Colo., Social Science, J. H. S., Course of Study Monograph No. 3	317
1925	Oakland, Calif., Handbook of Science for Gr. 7-9, Course of Study Series No. 21	58	1923	Des Moines, Iowa, Syllabus for the Study of Civics	60
1926	Oakland, Calif., Course of Study Series No. 52, Science as a Related Subject for Smith-Hughes Courses	21	1926	Detroit, Mich., Social Science for Intermediate Schools	304
	Oakland, Calif., Course of Study Series No. 47, Agriculture for J. H. S.	31	1925	Fredericksburg, Va., State Teachers College Bulletin, Vol. 10, No. 4, Some Tentative Notes and Suggestions on the Teaching of English History in the 8th Grade J. H. S.	32
1924	Oklahoma State Dept., Course of Study, Science, J. H. S.	133	1924	Fresno, Calif., Social Science, J. H. S.	*5
	Pennsylvania State Dept., Courses of Study in Agriculture	137	1923	Glendale, Calif., Course of Study, Geography, Gr. B7, A7	*15
1925	Pennsylvania State Dept., Course of Study in Agriculture, Gr. 7-12	57		Hackensack, N. J., Study of Civics, Academic Dept., J. H. S.	*20
1925	Pittsfield, Mass., Courses of Study, J. H. S.	*75		Hackensack, N. J., Course of Study, Civics, Manual Arts, Academic Dept.	*15
1926	St. Louis, Mo., Science for Grades 7-9, Curriculum Bulletin No. 14	111		Hackensack, N. J., Course of Study, Geography, Gr. 7, Academic Dept.	*11
1925	San Francisco, Calif., Tentative Course, General Science, J. H. S.	*39		Hackensack, N. J., Course of Study, Academic History, Gr. 7, 8	*18
	San Francisco, Calif., Life in and about Lakes and Streams, Gr. 9 B	*6		Hackensack, N. J., Course of Study, Commercial History, Gr. 7	*38
	San Francisco, Calif., Plant and Animal Life in a Vacant Lot, Gr. 9 A	*6		Hackensack, N. J., Course of Study, History for Manual Arts, Gr. 7	*5
	San Francisco, Calif., Fire and the Preparation of Food, Gr. 7 B	*4		Hackensack, N. J., Course in Geography, Manual Arts Dept., Gr. 7	*6
	Trenton, N. J., Secondary Course, Geography and Science	100	1926	Harrisburg, Pa., J. H. S. Geography	*56
1924	Virginia State Dept., Course of Study, Science, J. H. S.	78	1924	Iowa City, Iowa, University of Iowa Extension Bulletin No. 97, Courses in the Social Studies for J. H. S.	117
1923	Washington, D. C., Provisional Course, General Science, J. H. S.	*8		Kenosha, Wis., American History, J. H. S.	*90
	West Virginia State Dept., Course of Study, J. and S. H. S.	191		Kenosha, Wis., Ancient History, J. H. S.	*3
SOCIAL STUDIES				Kenosha, Wis., Community Civics, J. H. S.	*5
1925	Austin, Tex., History, Gr. 7-12	56		Kenosha, Wis., Economic Civics, J. H. S.	*3
1925	Baltimore, Md., Social Studies, J. and S. H. S.	578	1925	Kenosha, Wis., Geography, J. H. S.	*14
1926	Baltimore, Md., Geography, J. H. S.	344		Lakewood, Ohio, History and Civics, Geography and Vocations	50
1924	Bayonne, N. J., Course of Study, Social Science, J. and S. H. S.	128	1922	Lansing, Mich., History, Civics and Economics, Gr. 5-12	35
	Beaumont, Tex., Course of Study, Part V, History and Citizenship	*17	1924	Lawrence, Kans., Social Study Syllabus, J. H. S.	*150
1925	Boise, Idaho, Geography, Gr. 7	*3	1925	Long Beach, Calif., Social Sciences, Gr. 7, 8	*27
	Boise, Idaho, Tentative Course, History, Gr. 7, 8	*6	1923	Los Angeles, Calif., Course of Study Monographs No. 23, Social Studies, School Publication No. 74	176
1923	Boston, Mass., School Document No. 26, Outline History, Gr. 7, 8	30	1925	Lynn, Mass., Civics and Vocations, Tentative Course, J. H. S.	*15
1923	Boston, Mass., Outline of Work in Civics for Gr. 9, School Document No. 25	32	1925	Lynn, Mass., Social Science, Tentative Course, J. H. S.	*13
1924	Boston, Mass., Outline of Work in Geography for Intermediate Classes, School Document No. 9	38	1925	Lynn, Mass., Social Science, Gr. 8	*24
	Charleston, W. Va., J. H. S. Social Science	*35	1925	Madison, Wis., Bulletin of Wisconsin Teachers' Assn., Report, Committee on Teaching of Civics	14
	Charleston, W. Va., Civics, J. H. S.	*58		Madison, Wis., Tentative Course, Civics League, J. H. S., Gr. 7	*8
	Charleston, W. Va., J. H. S. American History	*44	1924	Maryland State Dept., Maryland School Bulletin, Vol. 6, No. 4, Teaching of the Social Studies	291
1923	Charleston, W. Va., J. H. S. Geography	*13	1927	Maryland State Dept., Tentative Goals in History, Gr. 4-7, Bulletin Vol. 8, No. 5	52
	Chicago, Ill., Francis W. Parker School, Studies in Education, Social Science Series, Course in History	196	1922	Massachusetts State Dept., Teachers' Manual of United States History, Gr. 7-8	78
1921	Cleveland, Ohio, Geography, J. H. S.	24		Massachusetts State Dept., Preliminary Report, Course in Social Studies, J. H. S.	*8
1923	Cleveland, Ohio, Geography, Gr. 7	*4			
1924	Cleveland, Ohio, Teaching Units, Social Sciences, J. H. S.	*29			

* Mimeographed sheets.

TABLE 12.—JUNIOR HIGH SCHOOL COURSES OF STUDY PUBLISHED SINCE
1920—Continued

Year	Title	No. of pages	Year	Title	No. of pages
SOCIAL STUDIES—contd.			SOCIAL STUDIES—contd.		
1925	Milwaukee, Wis., Tentative Course, History, J. H. S.	12	1926	Richmond, Ind., Social Science, J. and S. H. S.	*16
1925	Milwaukee, Wis., Professional Pamphlet Series, Tentative Course, Geography, Gr. 7, 8	90-151	1924	Richmond, Va., Course of Study, J. H. S.	148
1925	New Brunswick, N. J., Civics, J. H. S.	*39	1925	River Falls, Wis., Bulletin of River Falls State Normal School, Course of Study, Geography, J. H. S.	46
1925	New Brunswick, N. J., Tentative Course, Social Science, History, J. H. S. and S. H. S.	*80	1923	Rochester, N. Y., Social Studies, J. H. S.	*4
1924	New Hampshire State Dept., Program of Studies, Part 4, Social Science, Gr. 7, 8.	51	1925	Rochester, N. Y., Civics for J. H. S.	*1
1925	New Orleans, La., Civics, Plans Showing the Aim of Each Grade	*35	1925	Rochester, N. Y., Tentative Factual Course, Social Science, Civics	*21
1920	New York, N. Y., Course of Study, Geo- graphy, Gr. 4-8	15	1926	Rockford, Ill., Tentative Factual Course, Social Science, History, Geography, J. H. S.	*19
1922	New York, N. Y., Tentative Syllabus for High Schools, Civic Activities	48	1926	St. Louis, Mo., Socializing-Integrating Activities for Gr. 7-9	65
1923	New York, N. Y., Suggested Outlines for Civics Teachers, J. and S. H. S.	70	1924	Salt Lake City, Utah, History and Civics, Geography, Nature Study and Arith- metic, Gr. 1-9	156
1921	Norfolk, Va., Geography, J. H. S.	*9	1925	San Francisco, Calif., Tentative Course, Social Science, J. H. S.	*5
1921	Oakland, Calif., Course of Study Series No. 5, History, Geography, and Civics, J. and S. H. S.	13	1925	Shorewood, (Milwaukee) Wis., Tentative Course in Study of History, J. H. S.	*12
1922	Oakland, Calif., Course of Study Series No. 5, Supplement No. 1, History, Geography and Civics, Standards of Attainment, Gr. 7-9	*11	1925	Shorewood, (Milwaukee) Wis., Tentative Course in the Study of Citizenship, Gr. 5-6	*26
1923	Oakland, Calif., Course of Study Series No. 5, Supplement No. 2, Suggestive Activ- ities, Geography, History, Gr. 7	*19	1922	Stamford, Conn., Course of Study, Com- munity Civics	*50
1923	Oakland, Calif., Course of Study Series No. 5, Supplement No. 3, Suggestive Activ- ities, History, Gr. 7, 8	24	1925	Toledo, Ohio, History with Related Geo- graphy and Civics, Gr. 7, 8	76
1923	Oakland, Calif., Course of Study Series No. 5, Supplement No. 4, Suggestive Activ- ities, Geography, Community Civics, Gr. 8	*25	1922	Toledo, Ohio, History, Gr. 7, 8	*34
1923	Oakland, California, Course of Study Series No. 49, Suggestions for Teachers, Econ- omic and Vocational Civics, Gr. 9	*11	1922	Trenton, N. J., History, Tentative Course of Study, Gr. 7, 8	62
1923	Oakland, Calif., Course of Study Series No. 5, Suggestive Activities, Problems, Projects, and Devices for Motivating and Vitalizing Work in H7 and L8 History	*24	1923	Trenton, N. J., History, Gr. 7, 8	*4
1924	Oakland, Calif., Course of Study Series, No. 5, Supplement, Constitution and Amer- ican Ideals, Gr. 7, 8	5	1923	Trenton, N. J., Secondary Course of Study, Geography and General Science	100
1924	Oakland, Calif., Course of Study Series, No. 5, Supplement No. 5, Suggestive Activ- ities, Geography, Gr. 7, 8	23	1924	Trenton, N. J., History, Gr. 7, 8	76
1926	Oakland, Calif., Social Studies, J. H. S., Gr. 7-9	143	1924	Union City, Tenn., Course of Study, History I, J. H. S.	*6
1922	Oklahoma City, Okla., Social Science, Gr. 7	*44	1923	Vermont State Dept., Manual and Courses of Study, Part III, History, J. and S. H. S.	172
1922	Oklahoma City, Okla., Social Science, Gr. 8	*46	1924	Virginia, Minn., Courses of Study, Manual No. 7, History	21
1924	Oklahoma State Dept., Citizenship and His- tory Courses, J. H. S.	63	1925	Virginia State Dept., Course of Study, His- tory and Social Science, J. and S. H. S.	111
1924	Oshkosh, Wis., Tentative Course of Study, Geography, Book II, Gr. 6-8	49	1923	Warren, Ohio, Social Studies	*11
1923	Pennsylvania State Dept., History and Social Science, Gr. 7-12	296	1923	Washington, D. C., Provisional Course, Geography, J. H. S.	*11
1925	Pennsylvania State Dept., History and Social Science, Gr. 7-12	273	1925	Western Kentucky State T. C., Civics, American Citizenship, J. H. S.	*5
1925	Philadelphia, Pa., Geography and Introduc- tory Science, Gr. 7, 8	85	1925	Western Kentucky State T. C., Course in History, Gr. 8, 9	*19
1925	Philadelphia, Pa., Civics, Gr. 7, 8	145	1925	Western Kentucky State T. C., The Social Sciences, Gr. 7-9	*12
	Pueblo, Colo., History, Outline of Course of Study, Gr. 6-8	*8	1925	Wisconsin Teachers' Association, Bulletin, Oct., 1925, Outline Report of Committee on Teaching of Civics	14
			1925	Frederick K. Branom, Chicago Normal College, Chicago, Ill., A Bibliography of Recent Literature on the Teaching of Geography	32
			1923	Faculty of the Francis W. Parker School, Chicago, Ill., Studies in Education, Social Science Series, Course in History	196
			1926	Ella B. Knight, Clark University, 1925-26, A Bibliography of Geographical Litera- ture for Elementary Grades and J. H. S.	48

* Mimeographed sheets.

LIST OF TABLES

	Page
Growth in Total Enrolment in All Public High Schools and in Junior High Schools, 1920-26 (Table 1)	8
Distribution of "Re-Organized High Schools" by Type of Organization, by Grades, and by States, 1926 (Table 2)	10
Junior High School and All Public High School Enrolment in 1925-26, by States (Table 3)	12
Median Salaries Paid Teachers and Principals in Cities, 1926-27 (Table 4)	16
Length of Class Periods in Junior High Schools with Different Sized Enrolments (Table 5)	24
Subjects Offered as Constants in 139 Junior High Schools, Arranged According to Number of Pupils Enrolled (Table 6)	26
Percentages of Enrolment of Pupils in Foreign Languages in All Public High Schools, 1890-1922 (Table 7)	43
Books Dealing with General Problems of the Junior High School (Table 8)	54
Books Dealing with Junior High School Subjects (Table 9)	55
Books Dealing with School Counseling and Guidance (Table 10)	66
Addresses of Publishers of Books Listed in Tables 8-10 (Table 11)	67
Junior High School Courses of Study Published Since 1920 (Table 12)	69

LIST OF CHARTS

Number of Pupils Enrolled in Public High Schools, 1870-1926 (Chart I)	9
Number of Pupils Enrolled in Public High Schools to Each 1000 Population, 1870-1926 (Chart II)	9
Number of Pupils in Public High Schools to Each 1000 in Total Population, by States (Chart III)	13
Typical Junior High School Building for the Oakland Public Schools (Chart IV)	18
Recommendations Made by Outstanding Committees Relative to the Social Studies, Grades 6 to 9 (Chart V)	31
The Foundation for Healthful Living is Laid in the Public School (Chart VI)	53

LIST OF FIGURES

Formal Drill in Abstract Problems (Figure I)	6
Exploration Through Laboratory-Library Methods (Figure II)	7

BY LAW AND punishment, by social agitation and discussion, society can regulate and form itself in a more or less haphazard or chance way. But through education society can formulate its own purposes, can organize its own means and resources, and thus shape itself with definiteness and economy in the direction in which it wishes to move.—*John Dewey.*