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# THE TECHNE

Life without Labor is a Crime, Labor without Art  
and the Amenities of Life is Brutality.—Ruskin.

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Vol. XIII

NOVEMBER-DECEMBER, 1929

No. 2

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I am not a teacher:  
only a fellow-traveler  
of whom you asked the way.  
I pointed ahead—  
ahead of myself  
as well as of you.

—*Shaw.*

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PUBLISHED BY  
KANSAS STATE TEACHERS COLLEGE  
PITTSBURG, KANSAS

# THE TECHNE

Published by the Kansas State Teachers College of Pittsburg  
Pittsburg, Kansas

W. A. Brandenburg, President

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Vol. XIII.

NOVEMBER-DECEMBER, 1929

No. 2

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The *Techne* publishes, for the most part, papers on educational subjects, though articles on closely related fields are also used. Part of these papers set forth the results of research; others aim at interpretation of current developments. Though some of the discussions will interest the specialist, it is hoped that in every number there will be something useful for the average teacher.

The *Techne* is sent free to alumni, teachers, school officials, libraries, and, on request, to any person interested in the progress of education.

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# THE NEW TYPE OF TEST AS APPLIED TO SHORTHAND

By J. U. Massey, M. S., Assistant Professor of Commerce

Although the teaching and practice of shorthand offer favorable opportunities for the study of the problems of education from the standpoint of measured results, very little has been attempted in this particular field. There are only a few subjects, such as mathematics and perhaps foreign languages, which offer a chance to do something equally decisive in the way of measuring results.

In most states certain standards are set for the different departments of the schools. By this method much of the teaching and the results accomplished are of nearly equal rank, or should be. This equality of work can be made still more uniform by the use of a more accurate measure such as is offered by a standardized test. This kind of test is, in fact, more suitable to shorthand than many of the other subjects. Tests in most subjects are usually based on the subject matter found in a certain text. If the student has not used that particular text, he may be handicapped in the test. In the case of shorthand this difficulty is not encountered. The Gregg shorthand system furnishes the same type of work wherever the subject is taught; and since the material is always the same, the Gregg text may amply serve as a basis for the standard test.

## MIND AND PENCIL CO-ORDINATION DEVELOPED

Under the old type of test it was, and still is, to a large extent, customary either to allow each student sufficient time to answer all the questions, or to grade on the basis of the amount of work handed in. This type of test serves as an aid to the slow-thinking student, for the rate at which he is able to answer the questions is overlooked. Only the quality of the answer is considered. The pupil who answers the questions with difficulty and who barely finishes the work in the allotted time, or who "stalls" or writes "time" at the end of his work, receives the same grade as the one who answers the questions easily and finishes in perhaps half the time required by the other student, provided, of course, that, in the estimation of the teacher, the answers are of equal rank. It is clear that when this procedure is followed, the grade given the pupil is not a true and accurate measure of his ability. In shorthand the rate at which he is able to finish the work is just as important as the quality of the work.

It is true that many students do at least creditable work through the different stages of shorthand by mastering the principles with comparative ease; mentally they are successful. But the important fact to be considered is whether they are able to apply these principles in a rapid and correct method when it comes to actual practice. If they cannot get the mind and pencil point to work in quick and accurate accord, they are complete failures. The new type of test will show both the mental ability to grasp the elementary principles and the manual dexterity to write according to these principles. The study of shorthand must de-

velop quick and accurate thinking. The stenographer who must spend twice the time in trying to figure out his notes, or in recalling what particular character to use, as the one who produces his work without hesitancy, is not desirable in today's business office.

In the new type of test each pupil has the same length of time, and he must finish in that time by quick and accurate thinking combined with hand manipulation. Some may think this unfair to the slow-thinking and slow-working student, as he does not have time to answer all the questions. It is the opinion of the writer, however, that it is unjust to the capable student when we deprive him of an opportunity to demonstrate what he is capable of doing. The slow-thinking student may have a place in the study of shorthand, but he should not be allowed to retard the fast- and accurate-thinking student. And it is through the new type of test and its adaptability to shorthand that we are able to determine to a greater degree than heretofore the proper classification of our pupils. The mastery of shorthand requires that quickness of thought and action that is demanded to a certain extent by the new type of test.

In one of the Gregg publications there is a statement to this effect: "In order to take dictation, one must be able to think all around the person giving the dictation." The student of shorthand must not hesitate; he must think and act in unison. There is no time for the study of outline or principle when it comes to taking dictation. The time for study was in the mastering of principles, and now his mind and pencil must bring into practice that motor co-ordination which makes the signs with a machine-like precision.

It has been found that the work of students is of a higher grade and usually more accurate when they are forced to work at a higher rate of speed. It is also true that pupils develop speed and accuracy at the same time. In view of the fact, it may be asserted that good instruction requires that the teacher give attention to the rate of doing the work as well as to the quality of the work done. Moreover, the rate at which the pupil works can be measured to a fair degree of accuracy and without much effort by the use of the new tests. It is accomplished by securing a record of the time he spends in answering the set of questions given. The old type of test served as a method of grading or determining the quality of the answer, but not the capability of the student. Most students can pass any ordinary examination if they are given enough time. The rapidity of decision and the co-ordination of mind and pencil are better indications as to whether the student should be permitted to continue the course than is the quality of the answer. The student who is slow in thought and in action though otherwise of a superior mind, is not as a rule, desirable in the shorthand class.

#### THE TEST FULFILLS ITS PURPOSE

Some may contend that the new type of test is too much of a mechanical device and should not be used to measure subject matter. These same individuals may also consider the subject of shorthand and the

making of the so-called "chicken tracks" as purely mechanical. If both be true, then the new type of test best fulfills its purpose when applied to shorthand. It is the opinion of the writer, however, that shorthand requires more memory work than most subjects. For many of our subjects there is a "tying-up" with some other subject, but in the study of shorthand there is nothing upon which to base our learning except the principles and characters as set forth in the text; these must be committed to memory in such a manner that their recall is almost instantaneous. This instantaneous recall is emphasized in the new type of test. It is just the kind of skill expected of the writer of shorthand. He is expected to be able to see the character he is to write before he writes it, and he must be able to present that mental picture when occasion demands. He must be alert and able to follow the suggestion given, and to reproduce the work dictated. He must be able to think in terms of shorthand.

Objective tests are satisfactory only where one solution is possible. In this respect our tests are especially suited to the study of shorthand. There is only one correct answer to the shorthand question. The student either knows or he does not know. A definite situation is presented which requires accurate thought for solution. This feature presents a suitable means for measuring the ability of the shorthand student. Immediate action such as shorthand requires may be developed by allowing no time for the cogitation which is practiced under the old type examination. This cogitation may be beneficial in some subjects but it is detrimental in the mastery of shorthand. A successful stenographer thinks and acts rapidly and accurately, so the student should be required at the beginning of his study of shorthand to develop habits of speed and accuracy. In his book, *Applied Psychology, Its Principles and Methods*, Poffenberger tells us that one should begin the mastery of a process as nearly as possible in the way it is eventually to be done.

#### SHORTHAND AS A SKILL SUBJECT

Tests in shorthand have as a rule been used to check up on the pupil's memory. The teacher selected his questions at random, perhaps giving pet questions that had been used from time immemorial. But in shorthand, skill in writing must be tested as well as memory work. When a test in shorthand deals with only the memory feature, which constitutes the principles of the course, the fundamental feature of shorthand writing does not receive its due attention.

The mastery of principles is necessary of course, but the new type of test tends to measure all the essentials that should be considered in the study of shorthand. A greater range of material can be tested in a shorter time. The detailed information required of students in the study of shorthand is tested more effectively with objective tests. Authorities contend that ten to twenty minute examinations of the objective type are much more reliable than the five- and ten-question traditional examination which requires thirty to sixty minutes, and that the rating of the objective type per unit of working time is considerably higher than that for the traditional "essay" type of examination. As reliability of material is essential in shorthand the new type of test serves the purpose of

securing specific and detailed information upon which the student's ability to master the subject may be based.

More equal valuations of questions may be secured in the use of the new type of test. In the old "ten-question" type of test, the teacher usually gave a rating of 10 per cent to each question. In an examination of the "define, write, name, or illustrate" type the student might be asked to: 1. Give the rules for joining the circle vowels. 2. Name the disjoined prefixes, using each in a word.

In this particular case the questions should not be rated equally. We should take into consideration that the first question calls for only four distinct statements or rules, but the second calls for the naming of forty-nine (Old Text) separate and distinct signs, and the forty-nine illustrations. Under the new type of test, there would be one point for each statement correctly answered. A matching test could be used for the second question which would develop the ability to observe and respond rapidly and accurately. This type of test measures the student's ability to recognize the principle upon which certain facts are based. It involves an ability not only to recognize the fact and the principle, but also the connection which exists between them. The recognition and connection of fact and principle cannot be emphasized too strongly in developing the ability to take dictation.

**SUMMARY:** Concentration is one of the most important factors in the study and practice of shorthand. The ability to concentrate on the task one is performing should be encouraged. Teachers should help their pupils to learn to work efficiently. Through the use of the new type of test in the subject of shorthand the student is required to find a real solution to each question. He must meet his problem by activity instead of dreaming. He is required to give his full attention to the question and has no time for any other factor, as he had in the old "answer-and-explain" type of test.

The features of the new type of test stated above are all adapted to the study and mastery of shorthand, and, if applied, will help in the development of better teaching and better students.

## NEW CURRICULA IN KANSAS STATE TEACHERS COLLEGE

By H. C. Pryor, Ph. D., Head of the Department of Education.

This is a day of change. Nowhere is this more pronounced than in education. Examination of the catalogs of normal schools or teachers colleges of a decade or more ago discloses little in the way of specialized curricula for teachers. Current catalogs contain many such curricula.

When social conditions were simpler, uniform curricula may have been justified. Under our complex modern life, specialization has become common and is reflected, as it should be, in the setting up of curricula for training different types of teachers.

In spite of the modern trend, many teachers are still employed to teach grades or subjects for which they are unprepared. Under the present certification laws of Kansas—this is true of most states—a person holding a life certificate is permitted “to teach in the elementary and in the junior and two-year high schools of the State of Kansas.” The diploma of a graduate who has met the necessary requirements for the degree from a four-year college “shall be a life diploma to teach in any of the common schools of the State of Kansas, including elementary and high schools.” As a result, commercial teachers are found in the primary grades, history teachers teach mathematics, teachers who neither have training for nor interest in the rural schools teach in these schools. This will continue as long as “blanket” certificates are issued, as long as boards of education and some superintendents fail to discriminate in the selection of teachers, and teachers are compelled to accept any position which is open.

A better system of certification must come. The day will be hastened if state departments and other certifying agencies issue specialized certificates, if boards of education employ teachers for specific positions and if professionally minded teachers refuse to apply for or accept positions for which they are not qualified. In this movement, teacher-training institutions should lead the way by offering specialized curricula, by recommending candidates for specific positions only, and by carrying on a campaign of education.

Kansas State Teachers College of Pittsburg has offered a number of specialized curricula for several years. These curricula, which are outlined below, are the result of a good deal of study and “trying-out” to determine just what best meets the needs of certain types of teachers. They are published for the information of all who should know. They will have served their purpose if a keener appreciation of the problem is developed and some practical good results.

There is a differentiation in much of the subject matter in the various curricula. Each one contains a number of courses which pertain



particularly to the stated objective. This differentiation provides specific training for the grades or types of schools in which the student will teach.

Students changing from one curriculum to another can transfer credits only for those courses which are common to the two curricula, or for those courses which are allowable electives in both. Transference from one curriculum to another which is designed for closely related grades in the public-school system, or to a curriculum whose objective is not much different, may be accomplished without a great loss of credit, if made quite soon after entrance. Transference to a curriculum quite different in content and character is not possible without losing most of the credits previously obtained.

#### RURAL AND SMALL TOWN

##### *Leading to a Three-year, Non-renewable State Certificate Valid in Elementary Schools Only*

First Semester	Hrs.	Second Semester	Hrs.
Rhetoric 1.....	3	Rhetoric 2.....	3
School Management 3.....	3	Rural-school Methods 23.....	2
Geography 12 or 21.....	3	School Hygiene 62.....	2
Elementary Mathematics 3.....	3	Introductory Psychology 25.....	3
Sight Singing 1.....	2	American History 7.....	3
Biology 15.....	2	Observation and Participation in Rural	
Physical Education 1.....	0	Schools 4.....	2
		Physical Education.....	0
	16		15

#### RURAL AND SMALL TOWN

##### *Leading to a Life Certificate*

#### FRESHMAN YEAR

First Semester	Hrs.	Second Semester	Hrs.
Rhetoric 1.....	3	Rhetoric 2.....	3
School Management 3.....	3	Rural-School Methods 23.....	2
Physiology and Hygiene 11.....	3	Observation and Participation 4.....	2
Sight Singing 1.....	2	Elementary Mathematics 1.....	3
Art Education 3.....	4	Introductory Psychology 25.....	3
Physical Education 1.....	0	Geography 12 or 21.....	3
		Physical Education 2.....	0
	15		16

#### SOPHOMORE YEAR

First Semester	Hrs.	Second Semester	Hrs.
Rural Life and Education 6.....	3	Rural Life Problems 94 or Rural	
General Science 15.....	2	Sociology 40.....	2
Agriculture 2.....	3	Supervised Teaching in Rural	
American History 7.....	3	Schools 70.....	2
Child Psychology 40.....	2	Essentials of Speech 51.....	3
Intermediate Methods 22.....	2	Educational Measurements 63.....	2
Physical Education.....	0	School Hygiene 62.....	2
		Play Theory 74.....	3
		Biology 15.....	2
		Physical Education.....	0
	15		16

# KINDERGARTEN - PRIMARY

## *Leading to a Life Certificate*

### SECOND YEAR

First Semester	Hrs.	Second Semester	Hrs.
Rhetoric 1.....	3	Rhetoric 2.....	3
General Science 15.....	2	Biology 14.....	2
Introductory Psychology 25.....	3	Introduction to Education 1.....	2
Art Education 8.....	4	Sight Singing 1.....	2
American History 7.....	3	Child Psychology 60.....	2
Physical Education .....	0	Nutrition 22.....	1
		Physiology and Hygiene 11.....	3
		Physical Education .....	0
	15		15

### FIRST YEAR

First Semester	Hrs.	Second Semester	Hrs.
Teaching of Social Science 11.....	2	Teaching of English 12.....	2
Educational Measurements 63.....	2	Principles of Education 60.....	2
Geography 10.....	2	Supervised Teaching 70.....	3
*Observation and Participation 69.....	3	School Hygiene 62.....	2
Biology 15.....	2	Play Theory 74.....	3
Children's Literature 52.....	2	Electives .....	3
Activities and Materials 13.....	2	Physical Education .....	0
Physical Education .....	0		
	15		15

\*Observation and Participation may be taken in the second semester of the first year and Teaching in the first semester of the second year.

### INTERMEDIATE

## *Leading to a Life Certificate*

### FIRST YEAR

First Semester	Hrs.	Second Semester	Hrs.
Rhetoric 1.....	3	Rhetoric 2.....	3
Biology 14.....	2	Biology 15.....	2
Introduction to Education 1.....	2	Introductory Psychology 25.....	3
Sight Singing 1.....	2	Art Education 5.....	4
Mathematics 1.....	3	General Science 15.....	2
Physiology and Hygiene 11.....	3	Nutrition 22.....	1
Physical Education.....	0	Physical Education .....	0
	15		15

### SECOND YEAR

First Semester	Hrs.	Second Semester	Hrs.
*Observation and Participation 69.....	3	Supervised Teaching 70.....	3
Teaching of Social Science 21.....	2	Teaching of English 22.....	2
Educational Measurements 63.....	2	Principles of Education 60.....	2
Child Psychology 60.....	2	School Hygiene 62.....	2
American History 7.....	3	Geography 12.....	3
Children's Literature 52.....	2	Play Theory 74.....	3
Electives .....	1	Physical Education .....	0
Physical Education .....	0		
	15		15

\*Observation and Participation may be taken in the second semester of the first year and Teaching in the first semester of the second year.

## ELEMENTARY EDUCATION

*Leading to the Degree of B. S. in Education*

## FRESHMAN AND SOPHOMORE YEARS

Completion of the following curricula fulfills the requirements of the freshman and sophomore years: Rural and Small Town, Kindergarten-Primary, Intermediate.

## JUNIOR AND SENIOR YEARS 60 Hours

Courses should be taken roughly in the order listed under the different groups.

## Group I. Education Major. The student must complete enough courses in this group beyond the life certificate requirements to total thirty hours.

Required: Supervised Teaching 150.....	3 Hours
Select three from the following list with the advice of the head of the Department of Education:	
Educational Measurements 120.....	3 Hours
Elementary Education 160.....	3 Hours
Elementary School Curriculum 200.....	2 Hours
Educational Sociology 170.....	2 Hours
Classroom Tests 110.....	2 Hours
Recent Investigations in Teaching 149.....	3 Hours
History of Education in the United States 165 .....	2 Hours
School Supervision 220.....	3 Hours

## Group II. Psychology and Philosophy..... 8-9 Hours

Required: Educational Psychology 153 .....	3 Hours
Select two from the following list with the advice of the head of the Department of Education:	
Psychology of Elementary School Subjects 158.....	3 Hours
Philosophy of Education 159.....	3 Hours
Experimental Psychology 170.....	3 Hours
Psychology of Character and Personality Building 185.....	3 Hours
Mental Tests and Measurements 200.....	3 Hours
Advanced Child Psychology 180.....	2 Hours

## Group III. Fine and Applied Arts and Music..... 5

Required:	
Music Appreciation 50 .....	2 Hours
Art Appreciation 108.....	3 Hours

## Group IV. Academic Requirements. The student must complete fifteen hours in one of the following groups: A, B, C, or D, and ten hours in a second group. Courses completed in the first two years may be counted in these groups.

Required: Essentials of Speech 51.....	3 Hours
(A) English .....	10-15 Hours
English Novel 104.....	3 Hours
American Literature 116.....	3 Hours
The Essay 106.....	3 Hours
Contemporary Poetry 107.....	3 Hours
Journalism 108.....	3 Hours
Shakespeare 118.....	3 Hours
Modern English Grammar 119.....	2 Hours
Advanced Writing 120.....	2 Hours
(Students whose freshman English is not above average should elect Short Story Writing 62, 2 hours.)	
Readings in Literature 58.....	3 Hours
(B) Geography .....	10-15
Conservation of Natural Resources 151.....	3 Hours
Climatology 175.....	3 Hours
The Geography of North America 101.....	3 Hours
Meteorology 75 .....	2 Hours
South America 111.....	3 Hours
Geography of Europe 112.....	3 Hours
Current Geography 170.....	1 Hour
(C) History and Social Science .....	10-15 Hours
Citizenship 154.....	3 Hours
Sociology 158.....	3 Hours
Greek History 165 (required of intermediate teachers).....	2 Hours
Roman History 166 (required of intermediate teachers).....	2 Hours
Child Welfare 171 (prerequisite, Sociology 18 or 158).....	2 Hours
Economics 102.....	5 Hours
Modern Europe 106.....	2 Hours
Latin America 107.....	2 Hours
(D) Biological Sciences .....	10-15 Hours
Genetics 181 or Eugenics 182.....	2 Hours
Hygiene and Public Health 163.....	3-4 Hours
Methods and Materials in Health Education 169.....	2 Hours
Personal Hygiene 20.....	2 Hours
Ornithology 119.....	2 Hours

**Group V. Mathematics.** Students who have not had algebra and geometry in high school must complete these courses without credit before receiving the degree.

**Group VI. Electives** to make the total number of hours (120).

The following are recommended:

School Lunch 53.....	2 Hours
Child Development 170.....	2 Hours

### JUNIOR HIGH SCHOOL

This curriculum represents the consensus of opinion of junior high school principals and superintendents as to what preparation is actually needed.

### *Leading to the Degree of B. S. in Education*

Freshman Year		Hrs.	Sophomore Year		Hrs.
Rhetoric 1 and 2.....	6		Essentials of Speech 51.....	3	
Electives .....	24		General Psychology 55.....	3	
			Electives .....	24	
		30			30
Junior Year		Hrs.	Senior Year		Hrs.
Educational Psychology 157.....	3		Electives in Education or Psychology....	3	
The Junior High School 161.....	3		Departmental Methods 149.....	2 or 3	
Educational Measurements 121 .....	3		Supervised Teaching 150.....	3	
Electives .....	21		Electives .....	21 or 22	
		30			30

Note 1. The elective in Education or Psychology in the senior year will not be required of those students who take life certificates at the end of the sophomore year of the junior high school curriculum.

Note 2. In case the student changes from the junior high school curriculum, the elective in Education or Psychology in the senior year will not be required.

Following is the program to be completed by students who wish to receive life certificates for teaching in junior high school at the end of the sophomore year.

Major .....	12	
Minor .....	8	
Minor .....	8	
English .....	6	
Speech .....	3	
		<b>37</b>
Psychology .....	3	
Introduction to Education .....	2	
Departmental Methods or Electives in Education .....	2	
Supervised Teaching .....	3	
		10
Physiology .....	3 or 4	
American History .....	3	
Geography .....	3	
Elementary Mathematics .....	3	12 or 13
		59 or 60

Note: If Mathematics is taken either as a major or minor, Elementary Mathematics will not be required.

## SENIOR HIGH SCHOOL

*Leading to the Degree of B. S. in Education*

Freshman Year		Hrs.	Sophomore Year		Hrs.
Rhetoric 1 and 2.....	6		Essentials of Speech 51.....	3	
Electives .....	24		General Psychology 55.....	3	
			Electives .....	24	
		30			30
Junior Year		Hrs.	Senior Year		Hrs.
Educational Psychology 157.....	3		Elective in Education or Psychology....	3	
Educational Measurements 121.....	3		Departmental Methods 149.....	2 or 3	
Secondary Education 162.....	3		Supervised Teaching 150.....	3	
Electives .....	21		Electives .....	21 or 22	
		30			30

Electives must be chosen to complete either one major of 30 hours and one minor of 20 hours, or one major of 30 hours and another major of 24 hours.

Thirty-hour majors may be chosen only from the following departments: Biological Sciences, Chemistry and Physics, English, Foreign Languages, Geography and Geology, History and Social Science, Mathematics.

Twenty-four hour majors may be chosen only from the following departments: Education, Physical Education, Psychology and Philosophy, Speech.

Twenty-hour minors may be chosen only from the following departments: Biological Sciences, Chemistry and Physics, Commerce, English, Foreign Languages, Geography and Geology, History and Social Science, Home Economics, Industrial Education, Mathematics, Physical Education, Speech.

The writer invites suggestions from educators as to how the curricula may be improved.

## STUDY TECHNIQUE: SOME SUGGESTIONS FOR TEACHER AND STUDENT

By J. A. Trent, M. A., Assistant Professor of Biology

To the teacher interested in improving the study technique of his students:

When we consider the fact that a large number of students in the high school fail in at least one subject during their high school course, we are made to wonder as to the cause of such inadequacies. There are, no doubt, several causes contributing but a chief cause is the lack of a sufficient knowledge of how to study, of the proper methods of study technique. It is the purpose of this paper to offer some suggestions as to how the high school student may become a more efficient learner. An application of some of the principles would not be amiss in helping the college freshman to become oriented to a new situation. The chief aim of this discourse is to assist the student in becoming a more efficient learner by the formation of correct habits of study. What one studies, in some instances, may be forgotten, but how one studies becomes a habit that lasts through life. More specific aims are given in connection with the separate topics as they are presented.

A knowledge of the nature of the learning process is essential in the directing of efficient learning. It is to be remembered that the learning process is an active one, a system of stimulations and responses. Learning does not come unless there is some activity involved. It is the duty of the teacher to provide for such activity. This can be done by the assigning of proper learning exercises and their adequate direction. The desired outcome is largely dependent upon the nature of the learning exercise assigned.

"The educator's part in the enterprise of education," John Dewey writes, "is to furnish the environment which stimulates responses and directs the learner's course."

During his high school course it is necessary for the pupil to engage in and acquire some ability in such activities as those given below, in order to become efficient, and it is these topics that make up the subject matter of the discussion offered here.

I. The making of a study program.

II. Reading.

1. Rapid silent reading.
2. Reading to get meaning.
3. Reading to remember.
4. Reading to get information.

- III. The making of a summary.
- IV. The making of outlines.
- V. The methods of memorizing.
- VI. Problem solving.
- VII. The process of reasoning.
- VIII. Criticizing, judging, etc.
- IX. The process of note making.
- X. Use of the library.
- XI. Preparation of written assignments.
- XII. Participation in oral expression.
- XIII. The acquiring of a vocabulary.
- XIV. Methods of review.
- XV. Preparation for and taking examinations.

Some suggested types of learning exercises are given with each topic to assist the student in the acquiring of the desired outcomes. There may seem to be some repetition in some of the learning exercises, but where such occurs, there is a different point of view involved. This work is not produced from the technical point of view, but is presented with the hope that students deficient in proper study habits may be benefited by a practical application of some suggestions given. Although this work is intended primarily for the teacher interested in improving the study technique of his students, it may well find its way into the hands of the students themselves, for whom general rules, suggested learning exercises, and classified references may prove helpful.

#### I. Study technique in any subject:

1. Know the aim of every course you take and adapt your method to that aim.
2. Do what you set out to do or have a reason for changing.
3. Look for a concrete example for things you want to understand.
4. Outline what you want to remember.
5. Have physical conditions right.
6. Allow as few distractions as possible.
7. Do not worry.
8. Have a study schedule and begin work vigorously on a subject when the time comes for it.
9. Arrange for the study of a lesson as soon as possible after it is assigned. Review before going to class.
10. Have everything needed at hand when you begin your study.
11. Check points that you do not understand for looking up later. Formulate questions to ask your teacher.
12. Study until the lesson is understood.

#### II. A lesson is prepared:

1. When there is a feeling of confidence.
2. When the major and minor parts can be distinguished.
3. When the points can be connected logically.
4. When it all can be said in a few words.

### III. Suggestions for the formation of habits:

1. Learn correctly.
2. Acquire accuracy first, speed later.
3. Have a strong and decided initiative.
4. Continue practice.
5. Use what you have learned at every opportunity.
6. Have a clear plan.
7. Realize the value of correct habit.
8. Be concerned—care.
9. Tell your intentions.
10. Be thorough.

### IV. Breaking a habit:

1. Do not allow the old habit to function.
2. Remove conditions for the functioning of the old habit.
3. Develop a substitute habit.

### V. Reference:

Edwards, A. S., *The Fundamental Principles of Learning and Study*. Baltimore: Warwick and York, Inc., 1920.

### VI. Suggestions for studying English composition:

1. Have something you want to say.
2. Think material through clearly.
3. Organize thoughts into an outline.
4. Observe the good language of others.
5. Memorize beautiful passages from literature.

### VII. Suggestions for studying mathematics:

1. Understand what the problem is.
2. Recall what you already know about it.
3. Understand all signs, symbols, etc., involved.
4. Find out what principle should be used and why.
5. Know how to apply the principle.
6. Know how to verify your answers.
7. Drill for accuracy.

### VIII. Suggestions for studying history:

1. Get the meaning of the subject.
2. Read through quickly to get general trend of thought, then more carefully.
3. Pick out the main and sub-topics, correlate them.
4. Memorize dates, names, and definitions.
5. Make use of the outline and summary.
6. List things not understood and look them up.
7. Make maps, charts, diagrams, etc.

### IX. Suggestions for studying science:

1. Observe experiments carefully.
2. Note the facts. Do not be carried away by the apparatus.
3. See what the facts mean.



4. Look for the application of facts and laws in the home and on the street as well as in the laboratory.
5. Distinguish between fact, law, hypothesis.

## II. THE MAKING OF A STUDY PROGRAM

### I. Topics to be considered:

1. Time budgeting.
2. Time habits.
3. Place habits.
4. Conserving of energy.
5. Making a schedule.

### II. Activities involved:

1. Perceptual experiencing.
2. Using knowledge in new situations.
3. Expressing ideas.

### III. Some suggested learning exercises.

1. Take a week of normal activity, your usual experience in school. Make a tentative schedule showing the activity engaged in each hour of each day in the week as correctly as possible. Then estimate the time that should be spent at work, recreation, and sleep. Does your normal schedule provide for the proper amount of each at the proper time? According to the schedule, do you have your work continuous without recreation? Or does it allow for rest periods? What is the longest period of work in the schedule? Ask yourself such questions as: (1) Am I using my time wisely? (2) Have I arranged for the study of an assignment immediately after it is assigned? (3) Am I spending much time on some subjects and slighting others? (4) Am I studying the same lesson at the same time and at the same place each day?
2. Make a second schedule accounting for all of your time after having given due consideration to the questions asked in the preceding exercise. List all duties to be performed and have the schedule show when each is to begin and end. Does the second schedule have any advantages over the first? Compare your schedule with those of other members of your class and discuss various points with them. Post schedule and adhere closely to it until you see it needs revision.
3. Do you find an advantage in budgeting your time? Do you find that your energy is better conserved? Discuss.

### IV. Desired outcomes:

1. A systematic organization of time.
2. A profitable expenditure of energy.
3. A balanced study.

4. Regularity of habits.
5. Provision for recreation and relaxation when most needed.

#### V. References:

1. Hall-Quest, A. L., *Supervised Study*. New York: The Macmillan Company, 1916, 117 pp.
2. Book, W. F., "Results obtained from a course of How to Study in College," *School and Society*, October 22, 1927, p. 529.

### III. READING

#### I. Topics to be considered:

1. Rapid silent reading.
2. Reading to get meaning.
3. Reading to remember.
4. Reading to get information.

#### II. Activity involved:

1. Tracing the thinking of others.
2. Comprehending the products of thought.
3. Generalizing experience.
4. Vicarious experiencing.

#### III. Some suggested learning exercises:

1. For rapid silent reading:
  - a. Take some standard silent reading test as, Monroe, W. S., "Standardized Silent Reading Test," Bloomington, Illinois: Public School Publishing Company. Follow the directions given for the entire twelve exercises and estimate your average rate of reading and your comprehending ability.
  - b. Read one hundred lines from a simple selection. Note the number of seconds required to read them. When through write from memory the thought as completely as possible, and at intervals of twenty-four hours from the reading, repeat the process. Keep a record. Compare the first and last performances as to the amount of material retained and the ease or difficulty with which it is reproduced. Do this for a week, selecting a variety of passages but try to select ones of equal difficulty, and keep a record of results.
  - c. Read an introductory chapter from American history, noting all references made to England. Read as rapidly as possible. Reproduce in writing the facts retained. Do a later chapter, checking the World War.
2. Reading to understand:
  - a. Read chapters in civics with the idea of comparing local, state, and national government with reference to executive, judicial, and legislative departments.
  - b. Read a chapter from American history on the last year of the Civil War. Trace the maneuvers of Lee from the battle

of Gettysburg to Appomattox. Show by means of a map of your own making.

- c. Answer such types of questions as: What is the author's method of treating a certain topic? What does the author mean by——? Why do you consider chapter I of a certain text more important than chapter II?

3. Reading to remember:

- a. Read chapters from English or history textbooks, reading rapidly at first, then more carefully. Establish the main and the sub-topics by means of an outline. Memorize the outline.
- b. Read chapters from the text with the idea of reproducing them informally in class or in a written test. Use such topics as "The Importance of Steam," "What battle was the turning point of the Revolutionary War?"
- c. Read two fables from "Aesop's Fables." When through, tell one to a classmate but not the other. By keeping a record of what is later remembered, determine which one is retained longer? How do you account for it?

4. Reading for information:

- a. Prepare a special report, for example, "Denmark." Collect all references. Note size of the country, topography, climate, geographical position, people, government, education, industries, imports, exports. State source of information.
- b. Collect information to support the argument that government should control the industries. State sources of information.
- c. Ask such questions as: At what point in the sentence does one usually find the most important word, the subject? At what point in the paragraph does one find the most important sentence? At what point in the article does one usually find the most important paragraph? Would such information help in reading for information?

IV. Desired outcomes:

1. The ability to read rapidly, yet understandingly.
2. The ability to collect information from reading.
3. The ability to remember enough of what is read to be serviceable.

V. References:

1. Monroe, W. S., *Directing Learning in the High School*. Garden City, N. Y., Doubleday, Doran Company Inc., 1928, ch. 7.

2. Monroe, W. S., and Mohlman, Dora Keen, "Training in the Technique of Study," *Bureau of Educational Research Bulletin*, No. 20. University of Illinois iBulletin, Vol. 22. Urbana: University of Illinois, 1924.
3. Headley, L. A., *How to Study in College*. New York: Henry Holt and Company, 1926, ch. 10.
4. Edwards, A. S., *The Fundamental Principles of Learning and Study*. Baltimore: Warwick and York, 1920, ch. 17.

#### IV. THE MAKING OF A SUMMARY

##### I. Topics to be considered:

1. Principles of summarizing.
2. When to summarize.

##### II. Activities involved:

1. Generalizing experience.
2. Vicarious experiencing.
3. Comprehending the products of thought.
4. Tracing the thinking of another.
5. Expressing one's ideas.

##### III. Some suggested learning exercises:

1. Read some chapters in a text in which the author gives a summary at the end of each chapter. Read each paragraph carefully checking the key sentence. When an entire chapter is finished, note the summary given by the author. How many sentences does he have in the summary? Does he include one for each topic in the chapter? How does his list of important thoughts in the chapter compare with yours? What do you infer to be the purpose of a summary?
2. Read several paragraphs with the purpose of selecting the main thoughts in them. Then answer such questions as: Could the substance of the paragraph usually be stated in a sentence or two? Is there a key sentence that states the substance of the paragraph?
3. Read first paragraphs on various topics, and later, topics, chapters, and articles. Reproduce the substance of the paragraphs in phrases or words, not complete sentences, and the topics, chapters, and articles in a sentence or two.

##### IV. Desired outcomes:

1. The ability to state concisely what is read, or the ability to condense knowledge.
2. The ability to locate key words, key sentences, and key paragraphs, and to see their relation to the main subject.

## V. References:

1. Hall-Quest, *op. cit.*

## V. THE MAKING OF OUTLINES

## I. Topics to be considered:

1. Methods of outlining:
  - a. The serial outline.
  - b. The oblique outline.
  - c. The parallel outline.
2. The outline and the brief.

## II. Activities involved:

1. Tracing the thinking of another person.
2. Generalizing experience.
3. Comprehending the products of thought.
4. Using knowledge in new situations.
5. Expressing ideas.

## III. Some suggested learning exercises:

1. Study outlining in some standard textbook on English. State the principles in writing.
2. Make a serial outline. Take, for example, the administration of Washington. List the chief events in some such form as I, II, III, IV, V, etc., making the events co-ordinate.
3. Outline chapters from a textbook, selecting the main and sub-topics and showing their relationships. Use some such outline as:

## I.

## A.

- 1.
- 2.

- a.
- b.

## B.

## II.

4. Outline a lecture, following the same procedure.
5. Make a parallel outline of some period in history, as the colonial period in American history. Use some such outline as follows:

Name of colony.	When and where settled.	Type of government.	Who. What nationality.
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6. Select some subject for a written theme. Prepare an outline. Follow the outline with a corresponding brief.

## IV. Desired outcomes:

1. The ability to construct a plan for written expression, for organizing material.
2. The ability to discern main and secondary topics and to show their relationship.
3. The ability to trace the thinking of others.

## V. References:

1. Hall-Quest, *op. cit.*
2. Bagley, W. C., *The Educative Process*. New York: The Macmillan Company, 1915, 377 pp.
3. Headley, *op. cit.* ch. 12.

## VI. THE METHODS OF MEMORIZING

## I. Topics to be considered:

1. The whole method.
2. The part method.
3. The mixed method.

## II. Activities involved:

1. Vicarious experiencing.
2. Tracing the thinking of another person.

## III. Some suggested learning exercises:

1. Choose some poem or two stanzas from some poem you are not acquainted with. Read through several times aloud, trying to get the meaning. How long did it take to memorize the stanzas to the point where they could be repeated without a mistake? How many times was it necessary to read the stanzas?
2. Take up a similar selection word by word and line by line. When the first line is learned, proceed to the second. When the second is learned, go back and connect it with the first, and so on through the stanzas. How long did it take to memorize to the point that the selection could be repeated without a mistake? How many times was it necessary to repeat the selection in order to memorize it?
3. Compare exercises explained above with reference to (1) number of repetitions necessary to memorize the selections, and (2) the length of time required to memorize each. Then at intervals of twenty-four hours for one week, recall each exercise and reproduce in writing everything remembered. Which selection required a shorter time to memorize? Which selection was retained longer? How do you account for the difference? Is it probably due to the methods employed?

## IV. Desired outcomes:

1. The ability to memorize quickly and systematically by the best method.
2. The training of a serviceable memory.

## V. References:

1. Monroe, W. S., *op. cit.* ch. 7.
2. Headley, *op. cit.* ch. 6.
3. Hall-Quest, *op. cit.* p. 206.
4. Monroe, W. S., and Mohlman, Dora Keen, *op. cit.*
5. Colvin, S. S. and Bagley, W. C. *Human Behavior*. New York: The Macmillan Company, 1914, ch. 17.

## VII. PROBLEM SOLVING

## I. Topics to be considered:

1. Reflective thinking:
  - a. Facing a difficulty.
  - b. Collecting data.
  - c. Forming hypotheses.
  - d. Verifying.
2. Thought questions:
  - a. Comparing.
  - b. Analyzing.
  - c. Classifying.
  - d. Illustrating.
  - e. Giving reasons for.
  - f. Showing relation between.
  - g. Discussing.

## II. Activities involved:

1. Vicarious experiencing.
2. Generalizing experience.
3. Comprehending products of thought.
4. Using knowledge in new situations.
5. Tracing the thought of another.
6. Expressing ideas.
7. Prolonging, repeating, intensifying experience.

## III. Some suggested learning exercises:

1. Reflective thinking:
  - a. Select some problem, say the classification of a book, according to the Dewey classification system. Follow each of the steps of the thought process in order, that is, (1) state the problem or difficulty, (2) recall all past experience that might help in the solving of the problem, (3) form a hypothesis as to what class and sub-class the book may belong to, and (4) verify the conclusion by comparing the general contents of the book with those of books in the same class. Write out each step.
  - b. Select a problem of your own, following closely the steps given above. Also apply the steps to problems not selected, but belonging necessarily to your work.
2. Thought questions:

Answer such types of questions as those given below:

  1. Compare the Civil and the Revolutionary Wars with reference to generalship, loss of lives, cost in money, etc.

2. What are the rules for the classification of monocotyledonous and dicotyledonous plants?
3. Show a possible relationship between scenes portrayed in Elliot's *Mill on the Floss* and her own early life.
4. Illustrate the use of the comma, period, colon, semicolon, quotation marks, capital letters, etc.
5. Discuss the value of a plan in writing a theme.

#### IV. Desired outcomes:

1. A knowledge of the procedure in problem solving.
2. The ability to meet new situations intelligently.

#### V. References:

1. Monroe, W. S., *op. cit.*
2. Dewey, John, *How We Think*. Boston: D. C. Heath and Company, 1910, p. 70.
3. Starch, Daniel, *Educational Psychology*. New York: The Macmillan Company, 1920, pp. 178.
4. Cameron, E. H., *Educational Psychology*. New York: The Century Company, 1927, ch. 12.

### VIII. THE PROCESS OF REASONING

#### I. Topics to be considered:

1. Methods of reasoning:
  - a. Deductive.
  - b. Inductive.
2. Argumentation.
3. Discrimination.
4. Selection.

#### II. Activities involved:

1. Comprehending the products of thought.
2. Using knowledge in new situations.
3. Generalizing experience.
4. Tracing the thought of another person.

#### III. Some suggested learning exercises:

1. Investigate the meaning of these terms: deduction, syllogism, major premise, minor premise, conclusion, induction.
2. In the English text or some other source, note examples of inductive and deductive reasoning. Note how each step is applied in each process. Formulate examples of your own to which each process may be applied. What is meant by logical reasoning? Which process seems more logical? By which process is it more likely that a discovery of most of the natural laws have been brought about? Which process is more in keeping with scientific methods? Give reasons.



3. Point out poor reasoning in the following:

"All fish are cold-blooded,  
The whale is not a fish,  
Therefore, the whale is not cold-blooded."

4. Is it better, generally speaking, to take a generally accepted fact and deduct our knowledge in particular from it, or to take a great many specific instances and build up a conclusion from them? Give reasons for your answer. Illustrate.

IV. Desired outcomes:

1. The ability to reason logically.
2. The ability to decide independently.
3. The ability to evaluate argument.

V. References:

1. Bolton, E. F., *Everyday Psychology for Teachers*. New York: Chas. Scribners' Sons, 1923, ch. 16.
2. Cameron, E. H., *Educational Psychology*. ..New York: The Century Company, 1927, ch. 12.
3. Colvin and Bagley, *op. cit.* ch. 14.

(To be continued)

## PLAYS AND GAMES

By Irma Gene Nevins, Director Physical Education for Women  
(Continued from September-October number)

No school is complete without playground equipment. Some school boards, however, think this means expensive giant strides, chutes, etc. But the equipment which means the most to the school lad is the least expensive. He wants those things which he can manipulate, adjust, and control, a baseball and bat, sand piles, volley balls, and other articles of such nature. These things develop his imagination, perception, and memory.

The clever teacher can make a number of pieces of equipment for her school. For instance, she can make Indian clubs out of tree branches, volley balls out of old pieces of paper tied up with string into a ball shape and covered with cloth, bean bags cut out of ticking and filled with beans. Baseballs and bats can be improvised.

### SPUD

Players are numbered. The person who is "it" calls a number and the person whose number is called hurries to the center to get the ball, while all the other players scatter and get as far away from the ball as they can. As soon as "it" has possession of the ball, he must call "Stand," whereupon the rest of the players remain fixed on the spot where they happen to be. The "it" must also remain where he is, although he is allowed to take one step in any direction. He then tries to hit one of the other players with the ball, throwing it at any one of them. If he succeeds in hitting someone, it counts as a "spud" against that player. If the player moves either foot in dodging the throw, it also counts as a "spud" against him. If the thrower fails to hit any player, it counts as "spud" against him. When any player has two spuds against him, a penalty may be enforced.

### DODGE BALL

The players are divided into two teams, A and B. The members of team A form a circle while those of team B group themselves inside the circle. Team A has one or two volley balls and when the signal is given, these are thrown at the members of team B. Anyone hit must either drop out of the game temporarily, or join the circle, according to the agreement at the beginning of the game. The object of the game is to see who can stay in the center the longest without being hit. As soon as all are out, the sides change and the game proceeds as before.

### BOMBARDMENT

The field or gymnasium is divided into two equal parts which are called courts, and the players are divided into two teams, A and B. At the back of each court is placed a row of Indian clubs or ordinary sticks. The players from each team are scattered about in front of the clubs. The object of the game is to throw either a soft ball or bean bag at the

Indian clubs and knock them down. Team A must throw at the clubs in team B's court and vice versa. Each club that is knocked down counts one point for the team that threw at it. Each player tries to guard his own clubs and throw at the others and so he must watch the balls or been bags all the time, as they are constantly kept in action. If a player knocks down a club on his own side by accident, it counts one point for the opponent. The team wins which has the greatest number of points at the end of a given time, or which first gains a certain stated score.

#### VOLLEY BALL

##### (Simple Form)

The playing space required for this game is about 50x25 feet, or smaller, according to the size of teams playing. A net is drawn across the center, the top of which is about 1 foot above the heads of the average-sized players. The players are divided into two teams of equal numbers which are scattered over the two sides or courts of playing space. A base is marked off at the back of each court and each player serves from that base. The game begins by having a player from the team that wins the toss-up, stand on his base and serve the ball, which is done by tossing it up a little from the left hand and batting it with the heel of the right hand, so that it goes over the net into opponents' court. Should he fail to bat the ball far enough to go over the net, his team mates may help it along, using either one hand or two, and always batting upward. If it then goes over, the other team tries to return it in the same manner, and so it continues until one team fails to return it. Any number of players may bat the ball in succession in order to assist it over the net. Should the server fail to get the ball over the net on the first trial he is given another trial. Should he fail, the ball goes to the opposite side for the serve. Each player serves in turn, so it is well to have the players numbered before the game starts to avoid delay. The serving side only scores, one point being gained every time the opponents fail to return the ball. When the serving side fails to return the ball, the serve simply changes, and no score is made. Every foul counts one point. The side that first gains 21 points wins.

#### PLAYGROUND BALL

##### *Definitions.*

**Base Line:** Direct line between home and first, first and second, second and third, and third and home.

**Good Ball:** One legally delivered by pitcher over the plate, and between the knees and shoulders of the batter.

**Bad Ball:** Not over plate, between knees and shoulder of batter.

**Fair Ball:** Batted ball striking within diamond or on foul line.

**Foul Ball:** Batted ball striking outside foul line.

**Illegal Ball:** Sent to batter by pitcher not entirely in box, or by pitcher not heeling line with both feet prior to delivery, or taking more than one step in delivery.

**Foul Tip:** Foul ball hit by batter not higher than his head.

Dead Ball: Pitched ball striking batter.

Balk: Motion by pitcher to deliver, or holding to delay.

Block Ball: Batted or thrown ball stopped or held by outsider.

Illegal Hit: Fair hit ball batted when any part of batsman is upon ground outside his box.

Not in Play: After an illegal hit, foul hit ball not caught, dead ball or base runner struck by a fair hit ball, the ball not in play until held by the pitcher in his box.

### *Strikes*

Shall be called for:

- (1) Ball struck at and not hit.
- (2) Good ball legally delivered, not struck at.
- (3) Foul tip caught.
- (4) Batter intentionally interfering with legally delivered good ball.
- (5) First foul ball hit before first strike.

### *Outs*

Batter is out:

- (1) On third strike caught before touching ground or any object.
- (2) If hit by ball on third strike.
- (3) On third strike, if there is a man on first and less than two out.
- (4) If third strike is made by intentional interference with ball.
- (5) If after two strikes, a foul ball hits the batter before touching floor, wall, or fixture.
- (6) On an illegal hit.
- (7) If he bats out of turn and makes a fair hit, or reaches first, provided error is discovered before ball is pitched to next batter.
- (8) If not in position one minute after he is called to bat by umpire.
- (9) On attempt to hinder catcher's fielding, or intentional foul hitting.

Base runner is out:

#### I. Referring to man who has just batted:

- (1) If fielder legally holds ball on first base before runner arrives.
- (2) If a fair hit or foul fly is caught before touching ground, wall, or fixture.
- (3) If in running to first, he is hit by a fair or fly, before ball touches wall, floor, fielder, or fixture.

#### II. Referring to all base runners:

- (1) If touched by ball when off base, provided fielder holds ball after touching him.

- (2) If he runs out of base line three feet, except to avoid fielder who is fielding ball.
- (3) If fair or foul hit that has been caught, is held on base of runner, who left before such ball was caught, or if in that case the runner is tagged before his return to his base.
- (4) If fair hit ball touches base runner before striking fielder, wall, or fixture, except when he is on a base he is legally entitled to.
- (5) If fielder holds ball on a base not touched by the runner in going around.
- (6) If after striking too soon, player is put out in regular fashion.
- (7) For intentional interference with batted ball.
- (8) For intentional interference or failure to avoid interfering with fielder or fielding a batted ball.
- (9) For intentional interference with thrown ball.

### *Base Running*

Players may run bases:

- (1) On a fair hit.
- (2) After fair or foul fly has been caught.
- (3) After a ball not hit has reached or passed the catcher.
- (4) On three strikes except when catcher catches third strike.
- (5) If hit by ball he has just batted, rebounding from fielder, wall, floor or fixture.
- (6) One base on a passed ball, except on third strike or fourth ball, when he is entitled to all he can get.
- (7) The instant a foul tip ball bounds off catcher, provided such ball is not caught by fielder before hitting floor, wall or fixture.

Base runner can advance without being put out:

- (1) One base on an illegal pitch.
- (2) One base on a balk (not the batter).
- (3) One base if, while he was batter, four balls or an illegal pitch was called.
- (4) One base if forced to vacate by succeeding batter being awarded a base.
- (5) One base if pitcher does not give runner reasonable time to return to own base.
- (6) One base if fair hit ball strikes person or clothing of umpire on fair ground.
- (7) One base if prevented from making a base by obstruction of adversary.
- (8) On a block ball, until ball is returned to pitcher's box, unless time is called by the umpire.
- (9) One base if umpire is struck by ball thrown by catcher to intercept base runner.

Base runner must return to base and can do so without being put out:

- (1) On foul hit not caught.
- (2) On an illegal hit.
- (3) If called back for starting too soon.
- (4) On batter's interference with catcher's fielding.
- (5) If batsman in going to first is hit by foul or fair fly.

Referring to runs and scoring:—

- (1) One run is to be scored every time a base runner, after having legally touched the first three bases, shall touch home, before three men are put out.
- (2) No run is counted, coming in on a third man "forced out," or put out at first.
- (3) Runner is safe if touching bag or spot where bag should be. Likewise with home plate.
- (4) Runner may overrun first base, but must turn away from second in so doing. He can return either way.
- (5) If he slides with bag and stops, he must return with bag, as in overrunning first, before going on.
- (6) Unless forced, no run to be scored if a man on base is hit by a batted ball.

#### KICK BALL

Same rules except a soccer ball is used and the pitcher rolls the ball.

\*These rules for playground ball are based upon "Spalding's Official Rules for Playground Baseball, 1928," published by the American Sports Publishing Co., New York, by whose permission this summary is used.

## MISSOURI COMPLETES COMPREHENSIVE SURVEY

The last session of the Missouri legislature, working in conjunction with Governor Caulfield, made provision for an extended survey of social conditions in the state. A commission was created and charged with the task of making a thorough study of the educational, charitable, and penal institutions of the state. The work of the committee has been completed and its final report was made to the governor on November 30.

The commission called in experts in various fields, some of those in education being Dr. George Strayer, Dr. N. L. Engelhardt, Dr. Paul R. Mort, and Dr. E. S. Evenden, of Teachers College, Columbia University, and Prof. C. E. Rarick of the Kansas State Teachers College of Hays. The report to the governor calls attention to the fact that the charitable and penal institutions are overcrowded and that they are in need of extensive repairs and additions. The state institutions of higher learning are not, says the commission, securing the revenue needed and for this reason the instructors are usually underpaid and the equipment and buildings are insufficient. A program of improvement including all of the state institutions calls for an expenditure of \$158,000,000 over a period of twelve years.

The public school system, especially the rural schools, is reported in a backward condition. Great inequalities in educational offerings and in tax burdens exist, and some communities find it impossible to offer the type of elementary education needed. The recommendations of the survey board call for a guarantee of \$900 for each elementary teaching unit, and maximum school tax of 20 cents on the \$100. The balance needed to provide the \$900 guarantee shall come from a state and county equalization fund. Much of the additional revenue needed to finance the proposed plan of improvement shall be secured through increasing the rates in the personal and corporation income tax law, which Missouri now has, and through increased rates in the present corporation franchise tax.

## THE TREND

A program of improvement which seeks to further reduce fire hazards in San Francisco public schools is being carried out. Three hundred-fifty fire extinguishers are being installed in the several school buildings and a junior fire-prevention brigade has been formed among the students. In addition all boiler rooms have been safeguarded against fire through the removal of inflammable objects, such as wooden stairs and doors. The walls of all boiler rooms have been lined with sheet metal. With the exception of newer buildings public schools were formerly equipped only with fire hoses, but to doubly protect the children, the fire prevention bureau has recommended the use of fire extinguishers. These will be placed in bright red boxes, which will easily be found in case of fire. Teachers have been instructed not to use the fire extinguishers but in case of fire, lead the pupils from the building and leave the use of the fire extinguishers to the fire department upon its arrival. The janitors duty is to rush to the nearest alarm box and call the fire department.

The student fire brigade will consist of a student captain, a lieutenant, and eight horsemen in each school. They will inspect the building for fire hazards and at assemblages in the school auditorium will make preparations for vacating the auditorium speedily if fire breaks out. Principals are instructed that whenever a battalion chief of the fire department calls to stage a fire drill, the drill must be staged immediately even though the principal, teacher or students are engaged in some important task.—*American School Board Journal*, November, 1929.

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“According to Dorr G. Yeager, park naturalist, the Yellowstone School of Field History will be established in the Yellowstone National Park on July 1, 1930. The establishment of the school comes as a natural result of the rapidly increasing interest shown by the public in nature study and the enthusiastic reception accorded the installation of the ranger naturalist force of lecturers and the development of the museum idea in the park. This educational program is being carried on by the educational department of the National Park Service.”

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An interesting study by Edgar Dale of the knowledge which school children have of business terms is reported in the November number of the Ohio State *Educational Research Bulletin*. A list of 750 business terms was secured by “first selecting all of the business terms in an abridged dictionary containing forty-five thousand words; by consulting the indexes of books on business, economics, and finance; and by supplementing this list with common business words found in encyclopedias of business and articles dealing with the in-



vestment of money." Pupils in Grades VII to XII were tested in two communities of widely different social composition, one a wealthy residential suburb, the other an industrial city. The tests indicated that the average eighth-grade pupil knew about one-half the terms and the average twelfth-grade pupil knew about three-fourths of the terms.

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Recent legislation in Alabama provides annually \$900,000 to be known as "The state equalization fund for equalizing educational opportunities in public schools." Delaware has provided a \$1,000,000 appropriation for each year to assist districts in erecting schoolhouses. Four-fifths of license and franchise fees in Delaware go into a state school fund. Many states are enacting legislation of a similar character.

States are providing revenue from new sources, other than the general property tax. Among the many states that are doing this, Georgia has provided a \$1,000,000 equalization fund from a tax on gasoline and kerosene. Louisiana has a tax on malt sirup, Montana, Oklahoma, and Wyoming are securing large revenue from taxes on oils, gases and other minerals, and many other states are seeking and using new sources of revenues. All of these movements are being undertaken only after a careful scientific study of the educational needs and financial resources of the states.—*Bulletin*, 1929, No. 18, "Rural Education in 1926-1928." Bureau of Education.

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Teachers of nursery, kindergarten and primary children will be interested in *Bulletin*, 1929, No. 29, issued by the Bureau of Education. It bears the title, "Some Phases of Nursery-Kindergarten-Primary Education, 1926-1928," by Mary Dabney Davis, specialist in nursery-kindergarten-primary education, Bureau of Education.

The contents cover:—Enriched Environment—A new type of educational literature—Children's introduction to reading—Reconstruction of report cards—Nursery school and parent education—Children's progress aided in kindergarten and first grade—Contributions from research for teaching problems.

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Since 1926 the number of teachers colleges has increased from 101 to 137 in the United States, according to *Bulletin*, 1929, No. 14, issued by the Bureau of Education. The bulletin further states that in 1918, men students represented 12 per cent of the total number taking teacher training in teachers' colleges and normal schools. This percentage increased to 20 in 1926, and it is 19 for 1928.

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The International Bureau of Education, Geneva, Switzerland, is the nucleus of what some day may be a museum of education. There will be an exposition room to which different countries may send material illustrating teaching methods, especially those teaching international good will.