

# STANDARDS FOR HIGH SCHOOL TEACHING METHODS AND TECHNIQUE

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## PREFACE

From his experience in training teachers for high school positions during the past six years, the author has keenly felt the need for closer coördination between classroom courses in methods and technique on the one hand, and field work in observation and practice teaching on the other. In presenting this volume, *Standards for High School Teaching* and its companion volume, *Workbook in High School Observation and Practice Teaching*, the author has organized his efforts in securing such coördination.

Six years ago the workbooks in observation and practice teaching applied to the work in elementary schools and were entirely unsuited to observation and practice teaching in high school subjects. The author followed the example of others who were directing student observation and practice teaching in high schools and mimeographed sets of observation and practice teaching directions. These he has revised each semester until they have resulted in the *Workbook*.

Although students usually knew the theory of good methods and technique before they began their work in observation and practice teaching, their work in the classroom often indicated that their ideas were rather indefinite when applied to classroom situations. Frequently students would maintain that certain techniques had not been used in classes they had observed. A few well directed questions often showed them that the techniques had been used but that they had not recognized them.

Four years ago the members of one of the author's classes requested that some standards be set up to guide them in their work of observation and practice teaching. The author soon had some brief, tentative standards ready. These have been exceedingly valuable to students of subsequent classes. They have been

revised and expanded each semester, in accordance with needs as determined by different classes. This revision has resulted in the present volume, *Standards for High School Teaching*.

This volume has been prepared to meet three closely related needs in the training of high-school teachers. (1) Because of its wide scope and completeness it is especially suitable as a textbook for courses in high-school methods and technique. (2) It may be used as a textbook in an articulated course in general methods and observation and practice teaching. So used, with the *Workbook in High School Observation and Practice Teaching*, the class work in methods and technique and the laboratory work in the high-school classroom become closely correlated as one comprehensive, unified course, having logical divisions into units and problems. (3) The corresponding logical arrangement of the *Standards* and the *Workbook* make this volume an invaluable reference book which each student in a course in observation and practice teaching should possess.

This volume, *Standards for High School Teaching*, should be invaluable to teachers in the field whose training in methods and technique has been incomplete or needs to be brought, conservatively, up-to-date. Used in teacher discussion groups, reading circles, and teachers' meetings, it will show teachers just how to make their work yield higher production results in pupil learning.

While the author has drawn heavily upon his experience, both as a high school teacher and as a director of practice teaching, his ideas have been formulated and his experience supplemented by the works of a number of authors in the field of methods and technique. Among those to whom he should acknowledge indebtedness are the following: Bagley, Blackhurst, Burton, Charters, Colvin, Douglass, Foster, Holley, Millis, Morehart, Morrison, Mueller, Nutt, Parker, Stormzand, Strayer, Strebel, and Thomas. He is particularly indebted to his former teacher, Professor H. C. Morrison, for permission to use his technique of measuring class and individual attention.

C. E. R.

## EDITOR'S INTRODUCTION

Whether one espouses the doctrine of freedom or the doctrine of discipline as the way to achieve growth, nearly all will agree that in the early stages of teacher training some guidance, if not direction, is desirable. Courses in observation and in practice teaching have long been integral parts of the training courses for teachers. To supply guidance there have appeared from time to time, "observation manuals," "workbooks," "plan books," and so on. Many have had wide use testifying to their value. Practically all, however, have two weaknesses—lack of close-knit organization, and absence of reference to any organized body of standards. In placing his *Standards* and his *Workbook* on the market together, Professor Reeves has attempted to obviate these two difficulties. He supplies standards of reference in a brief, highly organized summary of reliable material. The observation outline is thus based upon a coherent theory of teaching and learning.

The material is by no means final and dogmatic, the *Standards* particularly being open to supplementation by individual instructors as developments in science and philosophy of education warrant.

The typical learning patterns and the general psychological principles of learning are used as the basis of organization. Instructors dealing with schools organized on the activities basis can easily make their adaptations, since the basic patterns will appear in some form as activities progress.

Use of these volumes, with such adaptations as the instructor may care to make, should materially lighten the instructor's task in directing observation and beginning practice teaching, and at the same time give beginning students a coherent view of the problems they are about to face.

A. S. BARR

W. H. BURTON

# CONTENTS

	PAGE
PREFACE . . . . .	v
EDITOR'S INTRODUCTION . . . . .	vii

## PART I

### PHYSICAL CONDITIONS AND ROUTINE MANAGEMENT

#### PROBLEM

1. WHAT ARE DESIRABLE FEATURES OF A HIGH-SCHOOL BUILDING AND SITE? . . . . .	3
2. HOW SHALL THE PHYSICAL CONDITIONS OF THE CLASS- ROOM BE REGULATED? . . . . .	9
3. HOW MAY ROUTINE MANAGEMENT INCREASE EFFI- CIENCY? . . . . .	14
4. HOW MAY CLASSROOM DISCIPLINE BE MAINTAINED? .	26

## PART II

### INTEREST AND ATTENTION AS THE BASIS FOR LEARNING

5. WHAT ARE THE CHARACTERISTICS OF INTEREST AND ATTENTION? . . . . .	41
6. HOW MAY THE TEACHER SECURE AND MAINTAIN IN- TEREST AND ATTENTION? . . . . .	52
7. HOW MAY CLASS ATTENTION BE MEASURED? . . .	60
8. HOW MAY INDIVIDUAL ATTENTION BE MEASURED? .	68

# CONTENTS

## PART III

### PREPARATORY ACTIVITIES OF THE TEACHER

PROBLEM	PAGE
9. HOW SHALL EDUCATIONAL OBJECTIVES AND LESSON AIMS BE DETERMINED? . . . . .	75
10. HOW SHALL SUBJECT MATTER BE SELECTED AND ORGANIZED? . . . . .	80
11. HOW SHALL DAILY LESSONS BE PLANNED? . . . . .	89

## PART IV

### THE ELEMENTS OF CLASSROOM PROCEDURE

12. HOW SHALL THE ASSIGNMENT BE MADE? . . . . .	99
13. HOW SHALL THE TEACHER SUPERVISE STUDY? . . . . .	109
14. WHAT IS GOOD TECHNIQUE IN CLASSROOM PROCEDURE? . . . . .	121

## PART V

### THE BASIC TYPES OF LEARNING

15. WHAT PRINCIPLES ARE INVOLVED IN THE ACQUIRING OF MOTOR SKILLS AND THE MAKING OF MENTAL ASSOCIATIONS? . . . . .	139
16. WHAT PRINCIPLES ARE INVOLVED IN LEARNING TO SOLVE PROBLEMS? . . . . .	155
17. WHAT PRINCIPLES ARE INVOLVED IN LEARNING APPRECIATION? . . . . .	167

## PART VI

### TYPES OF CLASSROOM PROCEDURE

18. HOW SHALL THE TEACHER USE DRILL PROCEDURE? . . . . .	189
19. TO WHAT EXTENT AND HOW SHALL THE LECTURE METHOD BE USED? . . . . .	206

# CONTENTS

PROBLEM

xi  
PAGE

20. HOW SHALL QUESTION AND ANSWER PROCEDURE BE USED? . . . . .	216
21. HOW MAY CLASSROOM PROCEDURE BE SOCIALIZED? . . . . .	230
22. HOW MAY PROJECTS BE USED? . . . . .	243
23. HOW SHALL THE LABORATORY BE USED? . . . . .	257
24. HOW SHALL THE TEACHER USE VISUAL MATERIALS? . . . . .	270

## PART VII

### METHODS IN SPECIAL SUBJECTS

25. HOW SHALL LATIN BE TAUGHT? . . . . .	289
26. HOW SHALL MODERN FOREIGN LANGUAGES BE TAUGHT? . . . . .	302
27. HOW SHALL ENGLISH BE TAUGHT? . . . . .	314
28. HOW SHALL MATHEMATICS BE TAUGHT? . . . . .	336
29. HOW SHALL THE PHYSICAL SCIENCES BE TAUGHT? . . . . .	351
30. HOW SHALL THE BIOLOGICAL OR LIFE SCIENCES BE TAUGHT? . . . . .	361
31. HOW SHALL THE SOCIAL SCIENCES BE TAUGHT? . . . . .	371
32. HOW SHALL COMMERCIAL SUBJECTS BE TAUGHT? . . . . .	389

## PART VIII

### THE MEASUREMENT OF THE RESULTS OF TEACHING

33. HOW SHALL THE TEACHER DIRECT PUPILS' REVIEW? . . . . .	409
34. HOW SHALL THE TEACHER TEST AND EXAMINE PUPILS? . . . . .	419
35. HOW SHALL TESTS AND WRITTEN WORK BE MARKED? . . . . .	451

## PART IX

### TEACHING AS A PROFESSION

36. HOW SHALL PRACTICE TEACHERS BE RATED? . . . . .	481
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## CONTENTS

## PROBLEM

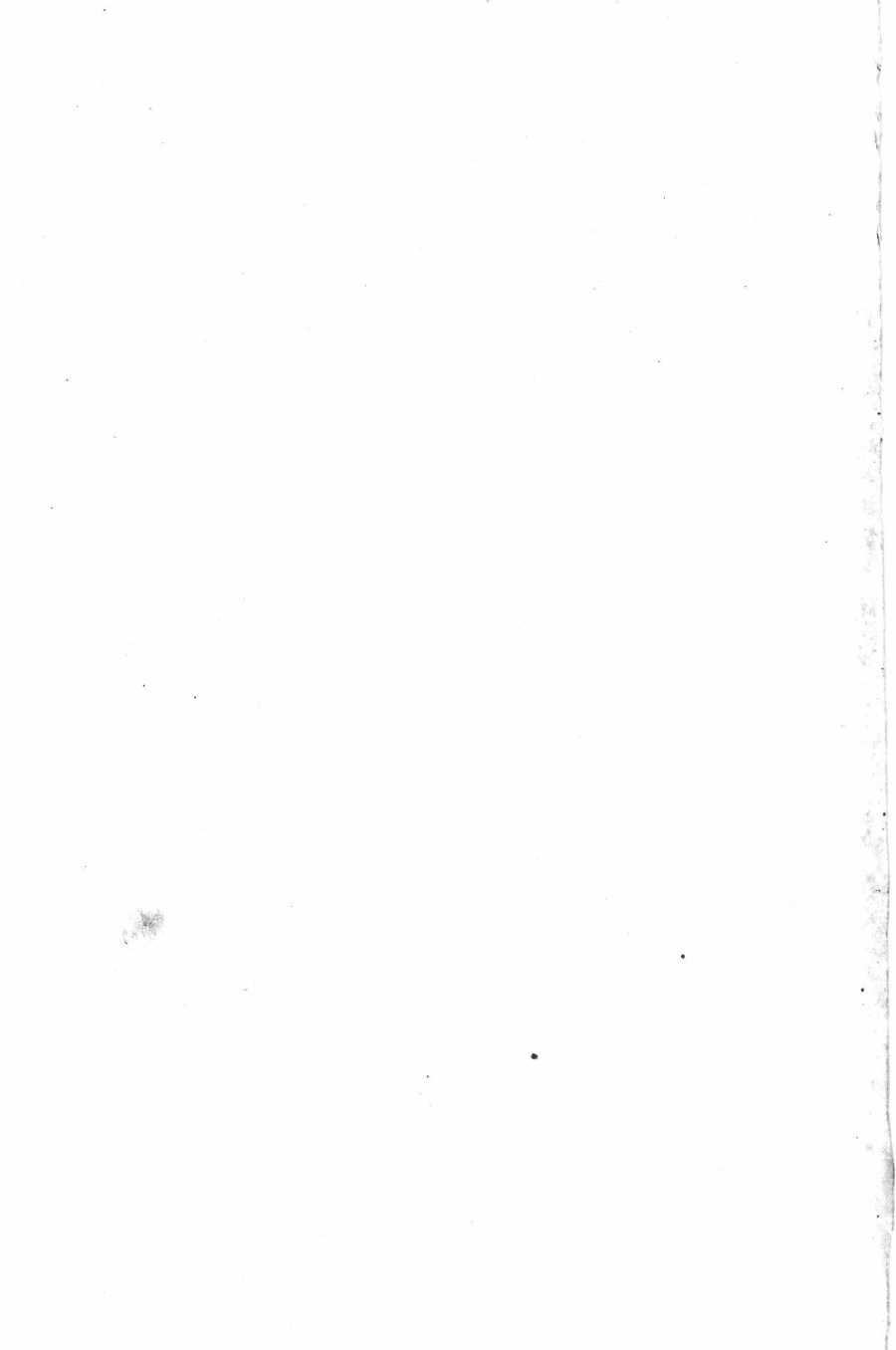
## PAGE

37. WHAT ETHICAL PRINCIPLES SHOULD GUIDE THE TEACHER? . . . . .	488
38. HOW MAY A TEACHER SECURE A DESIRABLE POSITION? .	512
APPENDIX . . . . .	537
INDEX . . . . .	547



**PART I**

**PHYSICAL CONDITIONS AND  
ROUTINE MANAGEMENT**



## PROBLEM 1

### WHAT ARE DESIRABLE FEATURES OF A HIGH-SCHOOL BUILDING AND SITE?

#### 1. *Location*

A high-school building should be located with reference to the accessibility and convenience of the pupils who attend the high school. It should be (1) near the center of the district which it serves; (2) near the center of the group of elementary schools from which pupils are drawn; and (3) not more than one block from a main street-car line.

#### 2. *Environment*

The environment of a residential section is to be preferred to that of other sections. There is usually more open space, more vegetation, and purer air in a residential section, and it is usually quieter, cleaner, and more wholesome than other sections.

The environment of a manufacturing or railroad district is often hygienically, morally, and æsthetically undesirable. It is usually noisy, dirty, and dusty. Impure air, noxious gases, and disagreeable odors usually are characteristic of such a district.

#### 3. *Grounds*

School grounds should be large, rectangular, elevated, and well drained. Buildings should be set well back from the street. Walks should lead directly to entrances. Winding walks encourage high-school pupils to take short cuts across lawns. Walks should be kept clean and in repair.

A lawn should extend across the school property in front

## 4 STANDARDS FOR HIGH SCHOOL TEACHING

of the building. Usually there should be no flower beds, because it is difficult to keep harmonious color combinations year after year. Æsthetic effect can better be secured with flowering or other shrubs and trees that harmonize with the type and lines of the building. Trees and shrubs should be kept trimmed.

A flagpole should be placed in the front yard, rather than on the building, but in such place as not to spoil the æsthetic effect of landscape gardening.

Athletic fields, tennis courts, and school gardens should be located at the rear of the building. All fences should be kept in repair. Grounds, both in front and back, should be kept free from papers, litter, rubbish, and weeds.

### 4. *Construction and Size of Building*

A high-school building should be not more than three, and preferably two, stories in height above the basement. It should be simple in design. Any ornamentation should be appropriate. It should be of fire-resistive construction: brick, stone, or concrete. If the building is old, it should be in good repair. It should be large enough to accommodate, adequately, its present enrollment.

### 5. *Entrances*

High-school building entrances that are frequently, or sometimes, provided are: (1) main entrance; (2) secondary entrances, at ends of the building; (3) entrance to furnace room; (4) entrances from the playgrounds to the gymnasiums or dressing rooms; (5) service entrances to shops and kitchens; (6) separate entrance to cafeteria; and (7) separate entrance to the auditorium.

### 6. *Provision for Wraps*

A sufficient number of individual lockers is the best provision for wraps. These should be ventilated and, preferably,

recessed in the corridor walls. Wardrobes, cloakrooms, and corridor hooks are unsatisfactory for high schools.

## 7. *Cleanliness of Rooms and Corridors*

Floors should be waxed, or oiled with a high grade of oil having a wax content. They should be of a golden color and clean. Walls and ceilings should be painted in light colors. Woodwork should be stained, varnished, or painted. Ledges and other parts of woodwork should be kept free from dust.

## 8. *Special Rooms*

Among the special rooms which high schools should, or may, contain, are the following:

- a. An assembly room which, in schools having an enrollment under 1,000 pupils, is large enough to seat the entire school
- b. Gymnasiums, above basement level, and separate for boys and girls
- c. Shops—woodwork, metal work, printing, auto mechanics, and so on, well lighted and properly equipped
- d. Homemaking rooms—cooking, serving, sewing, and so on, and a model house
- e. Laboratories—chemical, physical, biological, and so on
- f. Cafeteria unit, including kitchen
- g. Health service unit
- h. Office suite
- i. Teachers' rest rooms, separate for women and for men
- j. Commercial rooms
- k. Art rooms
- l. Music rooms
- m. Library

## 9. *Toilet Rooms*

Toilet rooms should be large and should contain adequate facilities for the number of pupils in attendance. They should be located above the basement level on the sunny side of the building. They should have large window areas and should contain sufficient radiation to keep them dry. They

should be equipped with a separate ventilating system, of the exhaust type. Toilet rooms should be light, dry, and airy, and absolutely clean and odorless. No deodorants should be used. There should be no marks on the walls and partitions. Each toilet room should contain lavatories, with hot and cold water supplied. There should be sufficient supplies of paper, towels, and liquid soap in their proper containers.

#### 10. *Service Systems*

- a. *Heating.* Systems of heating for high schools are hot water, steam or vapor, and hot air.
- b. *Ventilation.* The following are the more common systems of ventilation:

Unit (plenum, with gravity exhaust)

Central-fan (plenum)

Gravity exhaust (through wall vents to roof)

Fan exhaust (through wall vents with exhaust fan at or near the roof)

Coil exhaust (through wall vents, with heating coil to induce exhaust)

Window

Natural (gravity exhaust through wall vents)

Fan exhaust (through wall vents, with exhaust fan at or near the roof)

Coil exhaust (through wall vents, with heating coil to induce exhaust).

- c. *Vacuum cleaner.* A central vacuum-cleaning system is to be preferred. A large, portable system has value.
- d. *Electric clock system.* There should be a clock and bell in every classroom and special room, controlled from a master clock.
- e. *Telephone.* There should be an annunciator in the principal's office or in a special room. The system should extend to every classroom and special room.

- f. *Drinking fountains.* There should be a drinking fountain in every main corridor on every floor. A wall, or pedestal, type is to be preferred to one set upon legs. Drinking fountains should be kept free from dirt, finger marks, papers, and chewing gum.
- g. *Hot water.* All toilet rooms, laboratories, shops, home-economics rooms, health-service rooms, kitchens, and so on, should be supplied with both hot and cold water.
- h. *Other facilities.* A floor machine for scrubbing and polishing waxed floors should be supplied to each building. Each building should have an electric eraser cleaner unless a central vacuum-cleaning system has been installed.

#### 11. *Protection against Fires*

- a. *Stairways.* Enclosed, fireproof stair wells are best. They should have wire-glass doors to corridors. Either stairways or stair wells should be sufficient in number. They should be wide and should have stone or concrete steps with non-slipping treads.
- b. *Fire escapes.* Fire escapes should be painted and in repair. Exit doors are better than windows opening to fire escapes. Such doors and windows should be filled with wire-glass.
- c. *Fire gong.* There should be a gong on each floor and in shops that are noisy. Alarm buttons should be conveniently placed for the janitor or principal.
- d. *Fire extinguishers.* These may be automatic sprinkler systems, chemical extinguishers, hose attached to the city water system, or buckets. They should be located in each corridor on every floor. There should be special extinguishers for chemical laboratories.
- e. *Exits.* Exits should be sufficient in number. The

doors should open outward. No door should be locked during the day. There should be a self-releasing latch, or panic bolt, for each door.

- f. *Hydrant.* A street hydrant should be conveniently located near the building.
- g. *Fire department alarm.* Such an alarm should, preferably, be located in the building. If not, an alarm box should be located on the street near the building.

#### BIBLIOGRAPHY

- CUBBERLEY, E. P., *The Principal and His School* (Boston, Houghton Mifflin Co., 1923), Chap. XI.
- DRESSLAR, F. B., *School Hygiene* (New York, The Macmillan Co., 1913), Chaps. III, IX, XI.
- \*ENGELHARDT, N. L., REEVES, C. E., and WOMRATH, G. F., *Standards for Public School Janitorial-Engineering Service* (New York, Teachers College, Columbia University, 1926).
- "High School Buildings and Grounds," U. S. Bureau of Education, *Bulletin* No. 23, 1922.
- JOHNSON, F. W., *Administration and Supervision of the High School* (Boston, Ginn and Co., 1925), Chap. XII.
- \*REEVES, C. E., and GANDERS, H. S., *School Building Management* (New York, Teachers College, Columbia University, 1928), Chaps. IV-XXI, inclusive.
- \*STRAYER, G. D., and ENGELHARDT, N. L., *Standards for High School Buildings* (New York, Teachers College, Columbia University, 1924).



## PROBLEM 2

### HOW SHALL THE PHYSICAL CONDITIONS OF THE CLASSROOM BE REGULATED?

#### 1. *Heating*

- a. Steam or vapor heating is best for cold climates. There should be thermostatic control in the classroom.
- b. There should be one or more thermometers in the classroom. Thermometers should be placed at the breathing line away from sources of heat, windows, doors, and outside walls. Temperature will vary from 2 to 6 degrees between the floor and ceiling.
- c. The temperature should be from 65 to 70 degrees F. at the breathing line. If rooms are too warm thermostats should be correctly set. If there is a central fan system of ventilation the teacher should notify the janitor if the room is too warm. If other forms of ventilation are used the teacher may raise windows. If the room is too cool the janitor should attend to the furnace.

#### 2. *Ventilation*

- a. The air should be in such condition that pupils will be awake and alert.
- b. If there is no mechanical system, or if it is not in operation, windows should be open. There should be a deflector at each open window. If a central fan system is in operation windows should be closed.
- c. Good ventilation consists of the following:

- (1) A sufficient supply of air in variable amounts
- (2) Comfortable temperatures (65 to 70 degrees F.)