

# MODERN METHODS IN HIGH SCHOOL TEACHING

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**RIVERSIDE TEXTBOOKS  
IN EDUCATION**

**EDITED BY ELLWOOD P. CUBBERLEY**

**DEAN OF THE SCHOOL OF EDUCATION  
LELAND STANFORD JUNIOR UNIVERSITY**

TO  
MY MOTHER

## EDITOR'S INTRODUCTION

To the student of educational history, one of the most significant of the changes which have taken place in American educational practice during the past three quarters of a century, has been the marked advance which has been made in the science and the art of classroom instruction. Beginning as we did with an individual and a memoriter form of lesson hearing, in which the work of the teacher was that of school keeping rather than teaching, by the middle of the nineteenth century we had evolved the class form of organization and instruction. The pupils now recited in groups what they had just learned from their textbooks, and the skill of the teacher came to consist in an ability to assign, question, drill, and test. This type of textbook teaching is still the usual method of the beginning teacher, as well as of older teachers who have not made proper progress in the mastery of the newer forms of teaching technique.

The introduction of the newer psychological conceptions as to the nature of the learning process, which followed the coming of Pestalozzian and Herbartian ideas to this country, for the first time called for the development of a sound "technique of instruction," and for the training of teachers in the science and art of teaching. By means of selected subject-matter, now to be logically organized and psychologically presented, teachers were to drill their pupils, train them in reasoning and judgment, develop the powers of the mind, and impart the information needed for life's purposes. To carry a class along thinking, rather than merely reciting, which the new teaching procedure required, called at once for broad knowledge of subject-matter on the part of the

teacher, thorough grounding in the psychology of the learning process, and advance lesson-planning — all of which tended to make the professional preparation of teachers very desirable. It may be said that by about 1890 the need for training teachers in psychology and teaching methods, as well as the desirability of giving them further education in subject-matter than was represented in the schools in which they were to teach, had been accepted generally, in principle at least, by the American people, and by about 1900 we find a distinct movement, on the part of most of our States, to make some professional preparation a prerequisite for certification for teaching.

Since the latter date a series of new influences and a number of new conceptions as to the educative process have come to modify our earlier ideas as to the nature and purpose of teaching. Especially during the past decade and a half have these new influences and conceptions been deeply influential in redirecting the work of the school. Instead of existing chiefly for subject-matter ends, the school has now come to be conceived of as a social institution, maintained by society to fit young people for the responsibilities of life in a complex social, scientific, and economic world. The center of gravity in all progressive school systems has in consequence been shifted from the class to the pupils in the class, and the real problem in education has come to be conceived of not so much as one of subject-matter as of the pupils who present themselves for education. The pupils, too, have been revealed by modern studies as differing widely in abilities, needs, capacities, and futures, so that the problem of instructing them has become an individual problem to a degree undreamed of a quarter of a century ago.

With the coming of these newer conceptions as to the nature and purpose of the school, teaching young people

has been shown to be far more of a scientific process than was even recently thought to be the case. Instead of mass or even class instruction, the teaching process has been revealed as individual to a large degree, and the work of the teacher has come to be understood as that of guiding and directing the normal processes of thought and action of boys and girls of widely differing capacities, interests, and destinies. The main duty of the teacher, in this new type of school, is not primarily the imparting of information or the drilling of pupils in its mastery, important even as these may be, but rather to awaken new interests, to stimulate pupils to new educational activity, to extend appreciation in new directions, to connect the work of the school with life in a better way, to widen the horizons of ambitious youths, to stimulate them to develop for themselves larger and better ideals for life service, to awaken guiding moral impulses, to train for effective self-direction, and to prepare for socialized living in our complex social and economic and political life. Social and citizenship aims have thus been added to the older knowledge aim of the school.

The effect on teaching technique of the rather general acceptance of these new conceptions as to the nature of the work of the school has been important and far-reaching. To the older psychological conception of the teaching process has been added the newer social and civic conceptions, and new forms of teaching technique have been worked out to enable the teacher better to meet these new needs in instruction. While good psychological procedures are as important as ever before, a new emphasis has been placed on the desirable outcomes of teaching as these find expression in information mastered, habits formed, skills learned, ideals awakened and fixed, and attitudes developed. The prime problem in teaching has come to be that of so stimulating the pupil to educational activity that he will

educate himself. Accordingly, problem-solving instruction, project work, supervision of the pupils' studying, socialized procedures, and individual progress have attained an importance for the teacher undreamed of two decades ago. Standard tests and achievement scores have been worked out as guides in instruction, the old written examination has been extended into new forms, and a technique of classroom experimentation has been developed, all as aids to the teacher who would keep abreast of the progress being made in the science and the art of teaching.

While the more simple technique of questioning, assignment, review procedures, and lesson-planning is that which beginning teachers should first master, this alone is no longer sufficient for one who would become a master teacher. The newer conceptions as to aims and purposes and methods in education have taken too deep hold on the school for it to be satisfied longer with teachers whose teaching repertoire consists only of these simple though fundamental forms of technique. Both the teacher in training and the teacher in service need to inform themselves as to the best that has been worked out in the field of teaching procedures, as the present tendency in school supervision is to leave behind the teacher who does not strive to advance her skill in classroom teaching by experimentation with the newer methods, with a view to becoming a master teacher. Regardless of the importance of all other measures, the ability to develop a flexible and an effective classroom technique probably always will remain the primary criterion for estimating a teacher's growth and professional progress.

The author of the present volume in this series of textbooks has here presented us with a progressive organization of the technique of teaching in high schools, and has described the best recent experimentation in the field of teaching practice. The book is intended primarily as a



textbook for classes in the principles of teaching in secondary schools, or advanced classes in the newer methods of high school teaching, as offered in our colleges and other teacher-training institutions. Beginning with a statement of the desirable outcomes of teaching and their development, the author then passes step by step from the simpler to the more difficult teaching procedures, pointing out the nature, application, usefulness, and limitations of each special form of teaching technique considered. The book as organized ought also to be of much use to those teachers in service who desire to study the best that has been worked out in the field of teaching methods, either as individual students or in summer-session classes intended primarily for experienced teachers. While the treatment is general, and does not take up methods in the different secondary school subjects, the references are sufficiently full to enable the instructor to make such assignments to any extent he may desire. In the form here presented it is hoped, by both the author and the editor, that the book may prove of large usefulness as a textbook in all teacher-training institutions.

ELLWOOD P. CUBBERLEY

## AUTHOR'S PREFACE

THIS volume has been written with the conviction that there is a widely felt need on the part of teachers, supervisors, principals, and superintendents of schools, as well as by teachers of courses on methods of teaching in high schools, for a treatment, within the covers of one book, of the numerous and important recent developments in teaching practice. Such a volume should serve to introduce high school teachers in training and in service to the fundamentals of both the theory and the technique of the newly developed teaching procedures. Our better teachers no longer confine their teaching to such traditional methods as the review lesson, the inductive lesson, the deductive lesson, the appreciation lesson, the test lesson and the like, but are planning their work also to include supervised study, socialized class procedure, visual instruction, problem and project methods, classroom provisions for individual differences, and scientific classroom testing and experimentation. It has been felt that there is need to-day for a text which will cover the technique of all these newer types of teaching procedures, and will thus save the labor involved in reading a different book for each one.

The large increase in enrollments in our high schools, together with the decreased level of ability and of strength of educational purpose on the part of many of the pupils, and the increased competition of present-day life for the interests and effort of young people, have served to make necessary the use of more effective methods of teaching. The new conception of education as a process of guiding individual development also argues for an increased skill

and art in classroom teaching. The master teacher now must add a number of new strings to his bow — new methods to his professional equipment.

The author has for some time and in a number of ways been engaged in assisting high school teachers, both in service and in training, to develop a clearer understanding of the new movements in teaching practice, and has felt keenly the need for a basic volume to put into the hands of teachers. As yet there has been no one volume which has adequately treated of all or nearly all of the new procedures. While much use can be made of the wealth of periodical literature that is accumulating, this has first to be organized and summarized to make it of much use to teachers, and often then important articles are not available. This organizing and summarizing the author has here attempted, and it is in the discussion of the newer methods that he feels that he has made his main contribution.

The task of this book will be a discussion of the technique of adjusting education to the needs of adolescents, in the light of modern knowledge as to the purposes of secondary education. The new and more complex situation which we to-day face requires that teachers, in addition to possessing a more effective technique and larger skill in old methods, attain also to a mastery of a wider variety of procedures from which to choose in carrying on their teaching work. While it would have been quite helpful, had space permitted, to have preceded the discussion of teaching methods with a brief consideration of the nature of the learning process with adolescent boys and girls, and the psychological foundations of interests and motives as they relate to whole-hearted pupil activity, these are so well established in educational psychology that the instructor can easily supply them, in case he feels that the class needs such an

orientation before beginning the study of teaching methods. Instead, this book will begin with a consideration of the important outcomes of all teaching and of how best to develop these. It will then pass to a brief consideration of a number of the more common details of teaching technique with which every teacher should be familiar — the use of textbooks and references, developmental methods, lecturing or telling, drill work, questioning, assigning work; and planning the instruction.

Beginning with Chapter III, a discussion of the more modern technique, devices, and methods of teaching is taken up. As it has been the purpose to include in the two preceding chapters the essentials of technique for the apprentice teacher, in the chapters which now follow, the procedures which go to make up the professional skill of the master teacher are discussed. Among these are the supervision of pupil-study, teaching how to study, the technique of visual instruction, socialized class procedure, problem and project teaching, and the adjustment of instruction to the varying abilities of the pupils.

Toward the close of the book, in Chapters XII to XV inclusive, is given a discussion of two phases of the teacher's work which have received, in the past decade, a lion's share of investigation and study, namely, the more accurate measurement of the results of instruction, and the adjustment of instruction to individual needs.

The work of the modern master teacher also includes the investigation of, and experimentation with, new and suggested procedures. The technique of accurate determination of the worth of procedures is indeed a most recent development, and yet there is no reason why every ambitious and progressive teacher should not include it in his professional training. To give some idea as to what may be done by the teacher, and as to the use of experimental methods

in education, an outline of useful experimental procedure for the classroom investigation of teaching problems is given in the final chapter.

Because of the large amount of material already available in books on general method, constructed along the lines of the older and more standard teaching procedures, the preliminary chapters here devoted to the discussion of these are intended to be of the nature of summaries of suggestions for effective practice, with relatively little discussion of the underlying theory. In the chapters which follow, dealing with the more modern teaching procedures, the discussions are intended to be much fuller and to furnish some background and explanation of the theoretical considerations relating to each. The attempt has been made to give the spirit, as well as to state the fundamental principles and the technique, for each of the more recently developed teaching methods.

No attempt has been made in the book to commit the instructor to any given method of teaching. The book may be employed as a general text in high school teaching methods, as a reference book where problem methods are used, as collateral reading for lecture courses, or as a textbook for advanced classes in the newer methods where a socialized class discussion method of instruction is followed. The author was unwilling to assume the risk of seriously limiting the usefulness of the book by specially adapting it to any preconceived type of instruction. Rather, the intention was to keep purposely free in this respect, in the belief that every teacher is quite capable of choosing his own methods and making his own adaptations.

Following the custom of the series of textbooks in which this volume appears, questions and exercises are appended to each chapter. For the most part these are questions and exercises which the author has found helpful in stimulating

students to critical attitudes, to thinking in terms of application, to supplementation, and to comparisons. These will also be found quite worth while to readers, other than students in regular college courses, who wish to profit most fully from the material presented. The references given at the close of each chapter have been chosen on the basis of their usefulness to students in classes, taught by the author, in which these topics were studied. They have been made especially full on the different high school subjects, so as to afford reading material for students having special subject-matter interests.

The book has been written from the viewpoint that secondary education consists in assisting child nature to grow and unfold, and in guiding youth by furnishing experiences favorable to the acquisition of information, habits, skills, ideals, and attitudes which are the expression of the learner's self in the direction of the balanced individual-social aim of the school. While teaching procedures are discussed from this angle, the author makes no particular claim for originality. Indeed, the debt of the author is very heavy. He has seen fit to employ principles, concepts, and suggestions from a very wide variety of influences and sources. Among present-day writers of whose influence the author is conscious, in some connection or another, should be mentioned: Bagley, Betts, Charters, Colvin, Cubberley, Freeland, Freeman, Hall-Quest, Inglis, Kilpatrick, King, McCall, McGregor, Meriam, Miller (H. L.), Monroe (W. S.), Parker, Ruediger, Robbins, Ruch, Stetson (F. L.), Stevenson, Stormzand, Thomas (F. W.), and Thorndike.

Quite influential in demonstrating the possibilities of the new procedures, as well as in exhibiting great skill in the use of the older technique, has been the small group of progressive and capable teachers constituting the faculty of the

University High School, of the University of Oregon, since the author became director of the school in 1919. From the hundreds of cadet teachers, in whose classrooms the author has spent from six to eight hours a week for the past six years, not a little in suggestion has been gained. To both of these sources he acknowledges his indebtedness.

The author is also indebted for many suggestions, and for some modification of his views, to the students of his university classes in a course covering much of the material found in the book, and especially to those who were members of Education 203, at Stanford University, during the summer quarters of 1924 and 1925.

Thanks are due to Professors Fred L. Stetson, Homer P. Rainey, Howard R. Taylor, and Margaret B. Goodall, of the University of Oregon; Harold R. Benjamin, of Stanford University; and Rollein P. Dickerson, of the Ethical Culture School of New York, for reading portions of the manuscript and for many valuable suggestions.

Most heavily and most immediately the author is indebted to Dean Ellwood P. Cubberley, of Stanford University, the editor of this series of textbooks, and to the author's wife. The former has done much for this book in giving coherence and readability to what might else have been but a group of enthusiastic ideas. To Zanna M. Douglass, whose partnership in this as in all the author's interests has been most helpful, and who gave numerous valuable suggestions while engaged in typing the manuscript, the author gratefully acknowledges a debt beyond repaying.

HARL R. DOUGLASS

*Young*

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# MODERN METHODS IN HIGH SCHOOL TEACHING



## CHAPTER I

### OUTCOMES OF TEACHING AND THEIR DEVELOPMENT

#### *The problem of teaching method*

1. *The acquisition and imparting of information:* The two main methods employed — Relative advantages of the developmental and authoritative methods — Telling methods — Peculiar advantages of telling — Opportunities for telling — Technique of telling — Reading as a form of telling — The textbook — Textbook teaching — Suggestions on technique of textbook teaching — Collateral readings — Using collateral readings — Other methods of teaching information; developmental methods.
  2. *The retention of information once imparted:* Factors operating in retention — Repetition for retention of information — Levels of mastery.
  3. *The acquisition of habits and skills:* Relation to the laws of learning — Suggestions on technique of developing habits and skills.
  4. *Acquiring ideals and attitudes:* Information and skills *vs.* attitudes — Concomitant incidental outcomes — Attitudes, interests, and ideals through the curriculum — Technique of the appreciation lesson.
- Questions and exercises — Selected references.

#### *The problem of teaching method*

It is said that a friend of the great Whistler was once very much overwhelmed with one of the famous painter's productions, and exclaimed, "How can it be done!" Whistler replied solemnly, "It is a very simple matter, my friend. One does but select the appropriate colors and put them on in the right place in the right amount." Similarly, developing the broad principles of teaching method may