

THE PSYCHOLOGY OF ELEMENTARY EDUCATION

BY

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HOUGHTON MIFFLIN COMPANY

BOSTON NEW YORK CHICAGO SAN FRANCISCO

The Riverside Press Cambridge

EDITOR'S INTRODUCTION

THE science of education and the practice of teaching alike should rest primarily on the facts of underlying sciences relating to the growth and development of the child. Of these sciences, that of pure psychology should be most important in the training of a teacher in the technique of teaching. Students in training to become teachers need to be provided, too, with a type of psychology that applies the fundamental principles of the science directly to classroom problems. What is needed by the teacher is certain general and specific facts regarding the changes which take place in a child's mental attitudes and powers as he grows older, and other facts which reveal in how far these changes may be increased in rate or changed in direction as a result of the work of the school.

What constitutes the work of the school has recently come to mean much more to us than it used to mean. As we have studied children more and made a more careful analysis of their growth and needs, we have come to see plainly that certain large periods or stages of development characterize the child's growth from the time he enters the primary grade until he leaves at the end of the high-school course. As we have grasped the meaning of these stages of development more clearly, we have tended, too, to reorganize our school procedures the better to fit the particular needs of the child and youth at these different developmental stages. The primary child has needs which are peculiar to him, and to meet better these peculiar needs, we have redirected the primary work in our schools and tied it closely to the preceding kindergarten training, forming a well-knit kinder-

garten-primary school. The pupil in the intermediate grades also has peculiar needs, for which the older type of grade-school organization is fairly well adapted. As the pupil enters the early adolescent stage in his development, entirely new needs arise, to satisfy which both the old grade-school organization and the ordinary ninth year of the high school are but poorly adapted. To meet these new needs we have, within recent years, changed and developed our upper grades and the first year of high-school instruction, combined them in a new organization, and created the junior high school. Where properly organized this is a new institution, planned to meet the peculiar personal, social, moral, intellectual, and vocational needs of the early adolescent, with the development of personality as one of its main purposes. The senior high-school pupil also presents quite different needs and problems, the period being characterized by the development of an individuality of a new type, and a still different kind of instruction and handling is called for. Each of these four large periods of pupil development has a psychology more or less its own, and this psychology needs application to the concrete work of the school.

It has been the aim of the editor and the publishers of this series of textbooks to present separate studies of each of these four large and important periods in the life and development of the school child. The study of the psychology of the junior high-school pupil and period, and the applications of this psychology to the instruction and direction of the junior high school, was presented in a volume issued last year. The present volume deals with the psychology of the pupil in the intermediate grades of the elementary school, and applies the truths of psychology to his instruction. A volume on the psychology and instruction of the kindergarten-primary child is nearing completion and will be pub-

lished later, and a volume on the psychology and instruction of the senior high-school pupil is being prepared. When all four volumes have been completed and published, the series will present separate, as well as general, psychological studies of the various periods of instruction in our schools.

In the volume now offered, the author presents us with a study of the nature and conditions of education, the psychology of the learning process, the applications of this psychology to teaching, and a brief consideration of those individual differences among pupils which modify all attempts of the school to serve them. It is hoped that this number in the series will prove helpful not only to elementary-school teachers in training, but to elementary-school teachers in service as well.

ELLWOOD P. CUBBERLEY

PREFACE

THE purpose of this book is to present to teachers and to student-teachers the material which, through a number of years of teaching, the author has found to be of the greatest use in helping them to understand their work, and to make application of sound psychological theory to their daily problems. There is no attempt in this volume to teach "pure psychology," although some of pure or general psychology finds place in the chapters. This book can also be used as a text in a second course in psychology, the first course having been general psychology, or, as experience with a mimeograph edition has shown, it can be used successfully with students who have not had any previous course in psychology.

The most essential psychological knowledge for a teacher is that of learning and teaching, and with this in mind the main body of this book, Parts II and III, is taken up with the discussion of these subjects. Part I is introductory to the discussions of learning and of teaching, and deals with what is to be done, and with the hereditary, hygienic, and social facts that condition the learning and the teaching. Part IV takes up the special problems that arise on account of individual differences — a most important subject, but still secondary to the general problems of education. In dealing with the conclusions, in Part V it has seemed most useful to the teacher to gather together those theories and practices which can hardly be considered as more than outworn stepping-stones, and to contrast them with present accepted conclusions. In this way perspective and orientation may be gained in a way that would be less clear and forc-

ible if these matters had been left scattered through the text. The book closes with a chapter on "Education and Study," in which the psychological conclusions are applied to the problem of studying.

The introduction of a chapter on "Moral Education" hardly needs explanation. The importance of moral character demands a place in the psychology of education. The chapter naturally follows the discussion of transfer of training, and appropriately forms the concluding chapter of that part of the book that deals with the acquisitions of the student.

The three chapters on "The Psychology of Particular Subjects" is a rewriting and extension of analyses and suggestions for study first published in *The University Items*, of the University of Georgia, at the request of the editor, and later republished, upon a demand from teachers and principals, as a pamphlet entitled *How to Study*, in 1920 and 1921, at the University of Georgia. Much more than was expected these analyses and suggestions for study have been welcomed by student-teachers in my classes at the University of Georgia and the Peabody College for Teachers, and by teachers and principals in the field, and have therefore been considered as worthy of inclusion in this volume. The writer is fully aware that hardly a beginning has been made in the psychology of the particular subjects, and that suggestions for their study at this time can be at the most only tentative. The suggestions are offered, therefore, with this explanation, for what they are worth.

Although detailed references are not given to original studies, except in the chapters on "Transfer of Training," and in a few other places, the discussions are based on experimental work and are in conformance with scientific study of the problems treated, so far as such study has been made. The confusion in the minds of students upon the

problem of transfer of training made it seem wise to refer directly to certain of the original investigations, even at the risk of wearying the reader.

Omission of cuts and tables is for the purpose of keeping the cost of the volume as low as possible; the author is well aware of the slender means of many of that group of readers for whom this book is intended.

It is a pleasure and a duty to acknowledge many helpful suggestions and criticisms received from my colleagues, and the trial of much of the material in the text by teachers in the classroom.

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CONTENTS

PART I. THE NATURE AND CONDITIONS OF EDUCATION

I. THE NATURE AND OBJECTIVES OF EDUCATION . . .	3
II. THE HEREDITARY BASIS OF EDUCATION . . .	11
III. THE PHYSICAL BASIS OF EDUCATION . . .	23
IV. SOCIAL PSYCHOLOGY AND EDUCATION . . .	41

PART II. THE PSYCHOLOGY OF LEARNING

V. HABIT	55
VI. THE PSYCHOLOGY OF LEARNING (GENERAL) . . .	70
VII. PERCEPTION AND EDUCATION	84
VIII. THINKING AND STUDY	93
IX. MEMORY	108
X. THE TRANSFER OF TRAINING: 1. EXPERIMENTAL EVIDENCE	120
XI. THE TRANSFER OF TRAINING: 2. APPLICATIONS TO TEACHING	133
XII. THE PSYCHOLOGY OF MORAL EDUCATION . . .	143
XIII. THE STUDY OF PARTICULAR SUBJECTS: 1. PSYCHOL- OGY OF READING	155
XIV. THE STUDY OF PARTICULAR SUBJECTS: 2. STUDY OF OBJECTS, EXPERIMENTS, AND CONSTRUCTIVE WORK .	166
XV. THE STUDY OF PARTICULAR SUBJECTS: 3. THE LAN- GUAGE ARTS	179

PART III. THE PSYCHOLOGY OF THE TEACHING PROCESS

XVI. THE AROUSAL OF DESIRED ACTIVITIES . . .	199
XVII. DIRECTING LEARNING: 1. TEACHING AND LEARNING .	216
XVIII. DIRECTING LEARNING: 2. STUDY AND LESSON TYPES	230
XIX. TEACHING HOW TO STUDY	240
XX. DISCIPLINE, INTEREST, PLAY, AND WORK . . .	250

PART IV. INDIVIDUAL DIFFERENCES AND THEIR TREATMENT

XXI. INDIVIDUAL DIFFERENCES	265
XXII. TESTS, MEASUREMENTS, AND DIAGNOSIS . . .	274

PART V. CONCLUSIONS

XXIII. HARMFUL TRADITIONS AND SUPERSTITIONS . . .	293
XXIV. EDUCATION AND STUDY	305
APPENDIX: LIST OF EXPERIMENTS	319
INDEX	323

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PART I

THE NATURE AND CONDITIONS OF EDUCATION

THE PSYCHOLOGY OF ELEMENTARY EDUCATION



CHAPTER I

THE NATURE AND OBJECTIVES OF EDUCATION

General statements. The objectives of education are generally stated as being character, social efficiency, knowledge of various kinds, the training of the abilities, the discipline of the mind, health, citizenship, and the like. In becoming more specific about the objectives, the educator indicates a very large number; Dewey quotes with evident approval certain "samples of the millions of aims we have actually before us in the concrete work of education."

These many aims include the many particular kinds of skill, such as writing, reading, and drawing; the development of many traits that enter into citizenship, honesty, coöperation, and enlightened judgment upon public affairs; æsthetic appreciation for many beautiful pieces of art, particular interests in many fine literary productions; knowledge of a very large number of subjects; ability to think in this and that field of thought.

The objectives mentioned in the last paragraph have, at least, a different sound from the objective of the teachers who hold to the view that the object of education is to train the faculties of the mind so that they will be 'sharpened' to do any kind of task for which they may be called upon. This is the old disciplinary view, and we will examine it carefully in a later chapter. It is worth noting in this

4 PSYCHOLOGY OF ELEMENTARY EDUCATION

connection that the results desired by those who hold to the disciplinary conception are broad, general results, and not narrow, specific outcomes.

The newer statement of objectives. This indication of general, broad, and far-reaching results is very significant and very vital. The same thing appears in the statements of those who look at education from what we think of as the more modern point of view. Selecting the most commonly mentioned, so far as my experience goes, we find that the most desirable objectives of education are: the spirit of fair play, obedience, health, ability to earn one's own living, concentration, honesty, reverence, habits of study, ability to read and to enjoy reading, ability to write, and other things of like nature. Hardly one of these objectives can be attained without what we have come to call transfer of training — the functioning of an acquisition in other than the particular situations in which the acquisitions were made. The results to be had, in other words, are general, and are to function in as many kinds of situations as possible. The child is not to be honest for one person, the mother teaches him to be honest for all persons. Neatness is desired not for arithmetic papers, but for all papers the pupil writes.

The conclusion we may reach at this point is that results desired are not only the more or less specific results, such as the mechanical habits acquired in learning to use a pen, but — also and most important — results of the most general possible kind, results which the adult generation of any day desire to bring about in the rising generation for their own good. The aims include those from educating for the purpose of earning the necessities of life, often called the bread-and-butter aim, to that of producing an individual possessed of culture, efficiency, and moral character.

The common nature of all these more or less diverse

sounding aims, so far as they are common, may be seen if we consider what happens in the course of education. The importance of this is that we need to know, as exactly as possible, the process of education, so that we can plan the determining factors for the purpose of accomplishing the aims. We must know what we want to do, and we must know, if it is possible of accomplishment, how it can and should be done. All this is true in any field, and has simply been more neglected in education than in most other kinds of practical work.

When the educative process takes place. We may refer to experiments in learning and note that the educative process goes on when the learner does something—when he acts, talks, thinks, or tries to do these things. As he does things he learns to do them. As he learns to grasp things in his hands the infant also learns to perceive. We can no more make him the possessor of an idea than we can of an object; we can offer the object and we can bring the stimuli to bear on the senses of the child, but only in terms of his reaction will he hold the object or think the thought. We do not then impart knowledge; the child must acquire it by reacting. What the teacher does is important only if the child does that which will bring about the desired acquisition.

Presentation of things, application of stimuli, talking, questioning, or what not may be of no avail whatever for education: all the teachers obtainable could not impart a passing knowledge of a high school course to a group of imbeciles. Sufficiently intelligent students may acquire an education in spite of inferior teachers. The student must do the getting if any acquisition is made. It is this fact that leads us to realize that, in the last analysis, all education is self-education.

The teacher the stimulus. Knowledge, then, is built up by the learner; skills are acquired by the learner; all educa-

tional results are done by and not for the learner. The teacher is the stimulus; he helps to arouse and to direct the activity that is educative; and he works within the limits of the reactions of the students. It is worth much for the teacher to realize the significance of this truth; it means a difference in what he attempts to do in the school; and the difference is whether he looks to his own performance as the important thing or to the performance of the pupil. You don't 'learn' the child anything; he learns or fails to learn it for himself. If he is going to learn to say something he must say it; if to think something, he must think it, and the process of education, going along with the process of development, means the acquiring of something by the individual. The school and the teacher are the specially selected and arranged environment for the purpose of arousing and directing the educative processes or activities.

Thinking now of what we have said about acquisitions, we may ask what kind of acquisitions are the desired results of education and we shall have to answer a very large number of kinds — intellectual, emotional and motor; specific and general; facts, habits, dispositions, points of view, ideals — the 'millions' of things that will help the individual to live better and more effectively.

Attention and interest as ends. Attention and interest as ends of education deserve special mention. We shall later discuss them as means; they are very important as such, but as ends they are hardly less so. The habit of sustained attention is one of the most valuable acquisitions that a person can make. It is valuable not only for the further acquisitions that are to be made as a part of one's education; it is essential in the keen competition of one's vocation; mastery or even success in any field can hardly be had without this habit.

The value of interest and of a sufficiently wide fund of

interests has been clearly recognized in educational writings, but the development of interests has hardly been made the business of teachers in any way proportionate to the value theoretically placed upon them. Yet these interests in the worth-while things of life are essential to what the future citizen will think about and do or fail to pay attention to at all. Permanent interests in the worthy things of literature, science, art, etc., are part of the social heritage of the race. These interests not only add to the satisfaction and enjoyment of life, but in the extreme, possibly, in the form of hobbies, are of positive hygienic value to one whose habitual vocation has to be discontinued. Such interests are things to which one can turn from the routine of life, and are safeguards when by reason of sickness or declining strength he may be obliged to do so.

Acquisitions must be made relatively permanent. Another point that is almost too obvious to mention is that all these acquisitions must be made at least relatively permanent. If the changes made in the course of a week or a term at school left no permanent results they would have been wasted, so far as education goes. They might have been enjoyable, and they might have been worth while from that point of view, but otherwise the expense was in vain. The results that are more or less permanent in the individual are those that conform to the law of habit formation: memories, ideals, interests, skills—all the acquisitions, whatever they are called, whether they are reduced to a twofold classification, knowledge and skill; or whether they are called knowledge, skill, and appreciations; or whether they be named in the broad generalizations of character, culture, and social efficiency.

Thus it is possible to understand all the work of education in terms of habit formation and the laws of learning, which in turn are the more elaborate extensions of the laws of

8 PSYCHOLOGY OF ELEMENTARY EDUCATION

habit formation. In the broadest use of the term habit, as it has been used both in general and in psychological literature, it is possible to define education in terms of habit. Education is the making, modifying, and remaking of more or less permanent dispositions, tendencies, habits, skills, appreciations, or, to use one comprehensive term for all these, habits.

Education interpreted in terms of habit. The interpretation of education in terms of habit formation must of course be taken in no narrow way. I have offered the challenge to state what is not included that should be included in the habit theory of the process and results of education, and no exception has been forthcoming. The theory is evidently none too narrow if it includes all that should be included. If this is true, the adverse criticism that the theory is too narrow may be disregarded, or answered if need be, by the statement that the criticism is a mere general dogmatism without a fact to substantiate it.¹

Education which is the acquisition, modification, and remaking of habits includes the habit of self-direction and the habit of making new habits; it includes all that is possible in helping the student to acquire habits of learning and the habit of learning new things; the habit of solving one's own problems; the habits of thought, especially in one's chosen vocation, that make judgments quick and accurate; and permanent interests and appreciations.

Definition of education. We often hear the phrase, study in order to be educated. It suggests a certain attitude and limitation, and leaves in our minds the question, why be educated? We may say, get an education for the sake of an education. But there is something beyond this that we may also say, namely, become educated in order to be better

¹ For a fuller discussion of this matter the reader is referred to the author's *Fundamental Principles of Learning and Study*.