

MEASUREMENT AND
ADJUSTMENT SERIES

EDITED BY LEWIS M. TERMAN

ADJUSTING
THE SCHOOL TO
THE CHILD

PRACTICAL FIRST STEPS

BY CARLETON WASHBURN

Superintendent of Schools, Winnetka, Illinois
Author of "Common Science," "Individual Arithmetic," "Individual Speller," etc.



WORLD BOOK COMPANY

Yonkers-on-Hudson, New York

WORLD BOOK COMPANY
THE HOUSE OF APPLIED KNOWLEDGE

Established 1905 by Caspar W. Hodgson

YONKERS-ON-HUDSON, NEW YORK

2126 PRAIRIE AVENUE, CHICAGO

Also BOSTON : ATLANTA : DALLAS

SAN FRANCISCO : PORTLAND : MANILA

"IF the mountain will not come to Mahomet, Mahomet will go to the mountain!" That was the wisdom of Mahomet, according to story. If the child does not adjust to the school, the school must adjust to the child. That is the wisdom in the Winnetka procedure. No mountain was ever more obstinate or more justified in staying in its own place than is the normal child in asserting its right to be its own self. Yet, beginning with the advent of popular education, schools dealt with children in the mass. The dosage of each of the Three R's was the same for Thomas, Richard, and Henry. The results were unsatisfactory and teachers knew it; but how might the different subject matters be adapted to the individual rates of progress of children? There have been various answers, but none more interesting or convincing than the answer at Winnetka, where results during many years have vindicated the policy of adjusting the school to the child. To tell others of the Winnetka ideas and how they may be applied — how Mahomet may go to the mountain — is the purpose of this book.

MAS : WASC-2

Copyright 1932 by World Book Company

Copyright in Great Britain

All rights reserved

PRINTED IN U.S.A.

PREFACE

It was in 1919 that we began to reorganize the Winnetka Public Schools as an educational laboratory. In the years since then almost every member of the faculty has participated in one or more pieces of research in an attempt to find solutions to the many problems of curriculum, method, grade placement, and administration which confront every teacher who tries to do her work in the light of at least some scientific knowledge. It has seemed to us that certain types of problems lend themselves more readily to experimentation by teachers in actual classroom situations than to the more remote, even though more refined, techniques of the university laboratory. It is to such problems that we have given our attention.

One of the most insistently pressing educational problems of today is that of the adaptation of school work to individual differences. Since this is the sort of problem which can best be attacked in a public school laboratory, we have given a great deal of time and thought to it. We have not confined our work to the strictly scientific aspects of the problem, but have sought to find practical means for applying the results of our research and of that of other workers. We have accordingly developed certain techniques and materials in which we have attempted to combine the results of research, thinking, and everyday experience. These techniques are often called, by others, the "Winnetka Plan."

To us, however, there is no such thing as the "Winnetka Plan." A "Winnetka Plan" would imply a certain fixity of organization, a setting up of a particular scheme as a model to be followed by others. Such organization would be contrary to the policy and spirit of the Winnetka Public Schools. For these schools are organized as a laboratory for scientific research and practical experimentation, and they

are continually modifying their procedures in terms of their findings.

Certain of the techniques that have been worked out in Winnetka have, of course, stood the test of scientific analysis, and, we are reasonably sure, present workable, even though imperfect, solutions to pressing educational problems. To refuse to share these solutions, however tentative and incomplete they may be, would be out of keeping with the scientific spirit in which we are trying to work. This book is an attempt at such a sharing of our experience in the field of the adaptation of schools to individual differences.

By the term "adaptation of schools to individual differences" we mean to signify not merely the techniques of teaching facts and skills on an individual basis, but also something of the technique of developing the individual's creativeness and social-mindedness and of helping him to an inner and social adjustment. Underlying our work in this field — indeed, underlying all our work — there is, necessarily, an educational philosophy.

We recognize the right of the individual to a happy, satisfying, well-adjusted life both as a child and as an adult. We recognize that both from the standpoint of the welfare of the individual himself and from that of the progress of society, freedom of self-expression and the right of the individual to vary from his fellows are essential. And we recognize that the individual is a part of a large social organism; to function adequately and harmoniously in that organism he needs, on the one hand, certain knowledges and skills in common with his fellows — ability to speak and read and write the same language, ability to use the same system of number, and the possession of enough rudiments of common knowledge to serve as points of reference for later learnings — and, on the other hand, a realization of the integral interdependence existing between him and his fellows.

The techniques presented in this book are among the outcomes of fifteen years of thinking, research, and practical experimentation by a public school faculty, working cooperatively with this philosophy in mind. The Winnetka textbooks, diagnostic tests, and other teaching materials — published, mimeographed, or still under construction — are more important outcomes.¹ In the organization of the Winnetka Public Schools themselves — their administration, curriculum, methods, and spirit — will, of course, be found the principal embodiment of the results of the work of the Winnetka Public Schools laboratory. It is hoped that a volume describing this organization in some detail may follow the present book. The Winnetka Summer School for Teachers and the Graduate Teachers College of Winnetka are more nearly adequate attempts to share our experience with other teachers and administrators. But none of these things should be taken as an indication of finality or fixity of plan.

Before this book is published, parts of it are certain to be out of date. Every month some detail of our procedure is altered in terms of research or clearer thinking. A year or two often makes marked changes in techniques of organization, brought about by our continual attempt to approach more closely the goals of our guiding philosophy.

While we hold all our conclusions as to technique tentative and subject to modification, or to complete overturn if research justifies it, we recognize the importance of positiveness of action. The children are in the schools. We have to act in the light of such knowledge as we have. Teachers who may wish to learn from our experience are in the same

¹ A catalogue listing all such materials may be secured from the Winnetka Educational Press, Inc., Horace Mann School, Winnetka, Illinois. This is an independent corporation for the distribution of literature concerning Winnetka techniques and research findings, and text, testing, and teaching materials emanating from Winnetka experiments or usable with Winnetka techniques. Any profits from the corporation are utilized exclusively for further research.

situation as we are; they too must have positive standards of action. This book, therefore, is written with a definiteness which may seem out of keeping with our recognition of the inadequacy and tentativeness of our techniques. It is a practical book for teachers with real problems confronting them — problems that have to be solved as well as possible, but immediately.

This sort of attempt to give definite suggestions growing out of the experimentation in Winnetka is what has given rise to the misnomer of the "Winnetka Plan." Possibly the term would not be a misnomer if it were modified to read the "Winnetka Plan in 1931," or whatever year one is thinking about. We are conducting actual schools; so, obviously, there is a plan of work in Winnetka at any particular moment, and naturally any utterances from Winnetka will reflect the plan of the moment. Our desire to share with others the results of our research and practical experience in the form of definite suggestions may cause our critics to consider us doctrinaire. Could these critics work with us for a few weeks and note how fearlessly teachers, principals, supervisors, and administrative officers join in attacking what a few months before might have seemed cherished idols; could they share in the research going on continually in grade meetings, in teachers' seminar, in the Department of Educational Counsel, and in the Department of Research, they would, we believe, become convinced, not of the perfection of our schools, our plans, or our techniques, but of our recognition of our imperfections, and of our earnest, even though often faulty, attempts to overcome them.

In this Preface we express our recognition of the tentativeness of our findings. In the book itself we have tried to give those findings, however tentative, the positive tone and definiteness which are necessary if the book is to be of immediate practical value to classroom teachers.

C. W.

ACKNOWLEDGMENTS

To Frederic Burk, late president of the San Francisco State Teachers College, and Mary Ward, who worked with him during his life and carried on his work after his death, all of us in the Winnetka schools owe a debt of gratitude for many of the basic ideas expressed in this book. To the people and the Board of Education in Winnetka we express our appreciation for their understanding and for the freedom they have given us to work out our experiments. Most of the chapters in this book first appeared as articles in *Modern Education*; one, in *Progressive Education*. Both these educational journals have courteously granted permission to republish the articles.

EDITOR'S INTRODUCTION

No one has done more interesting or more important experimental work in the adaptation of school instruction to individual differences than have Dr. Carleton Washburne and his co-workers at Winnetka. Their experiment has involved more than the development of techniques for teaching facts and skills. In the words of Dr. Washburne, it has involved "something also of the technique of developing the individual's creativeness and social-mindedness and of helping him to an inner social adjustment." It is the belief of the editor that these aspects of the experiment are fully as important as the improvement of teaching methods, and that in most of the published appraisals of the Winnetka methods they have been insufficiently emphasized.

The Winnetka "system," as it is popularly called, is not here recommended to the world as an educational cure-all. Indeed, the author does not think of it as a system at all in the sense of its being a finished product. This book is an account of twelve years of patient and thoughtful experimentation and embodies no dogmatic philosophy of education. The author wishes it understood that the methods described are tentative and subject to continuous modification in the light of experience. The essential features of the Winnetka plan are to be sought rather in its point of view than in the detailed procedures herein described.

The editor believes that the Winnetka spirit is destined to exert a profound influence upon educational practice even in schools where it is not consciously adopted and followed. Dr. Washburne has shown us that half of the school day allows sufficient time in which to master the factual information and the skills of the average curriculum, and that the remainder of the day can be saved for creative and socializing activities. He has shown the advantages of piecework over

time work, of less teaching and more learning as a means of developing initiative and self-dependence.

This kind of teaching is not easy. It necessitates a more definitized curriculum and more planful procedures than does mass instruction. It substitutes brain work for tongue work on the part of the teacher. The pupil who has had eight years of such training should be more capable of doing independent work than is the average college freshman who has been spoon-fed all his school life. In fact, the work of Dr. Washburne in elementary education is pointing the way to reform in methods of higher education.

An important merit of any effective system of individual instruction is that it necessitates diagnostic testing in order that both the pupil and the teacher may be kept informed of the progress that is being made. Educational psychology has shown that hardly anything contributes so much to motivation as accurate knowledge of what one is accomplishing at every stage in the learning process.

The reader will note that the methods of individual instruction described in this book have much in common with those employed in the more progressive types of special classes for gifted children. It is no small achievement to have demonstrated that such methods are applicable to the common run of children and that their adoption does not necessarily increase the cost of education.

The Winnetka plan of individual instruction is not an alternative to the method of homogeneous grouping. It is equally effective whatever method of grouping is employed.

No teacher who is not hopelessly wedded to the traditions of the educational lockstep can fail to profit from a careful study of the educational philosophy and instructional procedures which Dr. Washburne has so interestingly set forth in this volume.

LEWIS M. TERMAN

CONTENTS

	PAGE
EDITOR'S INTRODUCTION	XV
CHAPTER	
I. BASIC PRINCIPLES OF INDIVIDUALIZING SCHOOL WORK . .	1
Specific standards in individualizing instruction	
Complete and diagnostic tests essential	
Need for self-instructive and self-corrective teaching materials	
Results of an individualized teaching program	
Group and creative activities	
II. INDIVIDUALIZING ARITHMETIC	10
The number facts	
Devices for learning the number facts — Drill sheets and test sheets	
Processes	
Goals for the various processes — Suggestions for teaching a new process	
Text and test materials for individualized teaching	
Application of arithmetic to life situations	
Summary	
III. ADJUSTING THE ARITHMETIC CURRICULUM TO THE CHILD .	32
Present arrangements of the arithmetic curriculum	
Methods used by the Committee of Seven in determining a proper readjustment of the arithmetic curriculum	
Results of Committee study of the various topics in arithmetic	
Addition facts — Subtraction facts — Column addition — Subtraction process — Meaning of fractions — Addition and subtraction of like fractions and mixed numbers involving like fractions but not involving borrowing — Multiplication facts — Simple multiplication — Compound multiplication — Simple bar graphs — Meaning of decimals — Multiplication of decimals — Addition and subtraction of decimals — Division facts — Short division — "Aliquot parts" — Multiplication of fractions — Division of fractions — Case I percentage — Long division — Addition and subtraction of unlike fractions and of mixed numbers involving unlike fractions, and subtraction of mixed numbers involving borrowing — Case II percentage — Other topics	
Value of the Committee study	

CHAPTER	PAGE
IV. HOW TO ADJUST READING TO EACH INDIVIDUAL CHILD ABOVE THE SECOND GRADE	49
Steps in individualizing reading	
Importance of right eye habits	
Testing, the first step in individualizing reading	
Reading books, the second step in individualizing reading	
The room library	
Oral reading, the third step in individualizing reading	
Testing the child's comprehension of books, the fourth step	
Individual promotion, the fifth step	
Remedial work in reading	
Summary	
V. INDIVIDUALIZING PRIMARY READING	68
Grouping children for individual reading instruction	
The individual reading plan now in use in Winnetka	
Other materials adapted for individual reading instruction	
Individualizing reading without special published materials	
Results of individualizing reading instruction	
VI. UNSCRAMBLING ENGLISH	80
Emphasis in English teaching	
Creative expression	
Motivating the English work — Grading creative expression	
— Providing practice material	
The technique of verbal expression	
Spelling — Penmanship — Punctuation and capitalization	
— Teaching and testing materials — The course of study	
Integration of creative and technical elements	
VII. INDIVIDUALIZING SPELLING	95
Selection of spelling words	
The technique now in use in Winnetka	
Records of individual accomplishment	
A four-grade spelling curriculum	
VIII. INDIVIDUAL WORK AND THE SOCIAL STUDIES	105
Delimiting criteria and desirable outcomes	
Determining the delimiting criteria — The effect of defining desirable outcomes	
The Winnetka social-studies technique	
The curriculum — Units of work — Need for group work	
— Partial individualization — The desirable outcomes	
Adapting the Winnetka technique to other situations	

Contents

xiii

CHAPTER	PAGE
IX. SOCIALIZING THE SCHOOL	121
Group activities	
Student government	
Socializing the school assembly	
Teaching of music	
Appreciation of literature, and creative writing	
Electives	
Outcomes of creative and group activities	
Organizing group activities	
Importance of group activities	
X. THE BEHAVIOR OF THE INDIVIDUAL CHILD	141
Pleasure-pain theory of discipline	
Applying mental hygiene to behavior problems	
Importance of the teacher's personality—Behavior considered as symptomatic — Case studies of problem children — The difficulties of solving behavior problems — Books on behavior problems of children — The child-guidance clinic — Solving behavior problems without the help of specialists	
XI. ADMINISTERING AN INDIVIDUALIZED SCHOOL	156
Admitting beginners to school	
Grade placement	
The daily program	
Records of individual progress	
Teacher training	
Supervision of teaching — The Winnetka Summer School for Teachers — Graduate Teachers College of Winnetka	
XII. CONVINCING THE COMMUNITY	175
INDEX	183

ADJUSTING THE SCHOOL TO THE CHILD

CHAPTER ONE

BASIC PRINCIPLES OF INDIVIDUALIZING SCHOOL WORK

WHAT can a classroom teacher do now to adapt her work to the individual differences that exist among her children? This question is being asked by many teachers, principals, and superintendents who have had impressed upon them through the results of standardized tests the very wide range of abilities among the children in any classroom. We now know that almost any so-called fourth grade contains children of second, third, fourth, fifth, and sixth grade ability in any subject we wish to test, and that the range is equally great in all other grades of the school system. To treat children whose abilities range through four or five grades as if they were alike, giving them all the same assignment and the same time to accomplish that assignment, and then to mark them all by a common standard, is so preposterous in the light of present-day knowledge that everyone is looking for a remedy for the situation.

It seems to some of us that this remedy lies partly in substituting piecework for time-work in education, allowing every child to master — temporarily, at least — each unit of his work before he goes on to the next unit, without being held back by slower children or forced forward by faster ones too rapidly for mastery.

Real adaptation of schools to individual children, however, means more than merely allowing each child to progress at his own natural gait through school subjects. It means developing the child's originality, his creative impulses, his initiative; it means helping him to inner emotional adjustment; and it means making him into a social individual with a genuine sense of responsibility for the welfare not of himself

alone nor of the small group of which he is a part, but ultimately of his nation and of humanity.

Those subjects which we want each child to master must be "individualized" — there is no other effective way of getting widely differing children to attain a common standard. But those subjects in which children may legitimately differ, or where we want to capitalize on their differences, may be socialized — we classify these as "group and creative activities."

What are the first practical steps by which a classroom teacher can provide effectively for both types of work? In this and succeeding chapters we shall suggest definite answers to that question.

SPECIFIC STANDARDS IN INDIVIDUALIZING INSTRUCTION

First of all, before anyone can adapt a subject to individual differences among children, he must determine specifically what it is he expects the children to master. We teachers as a class tend to think in generalities instead of in terms of specific needs and requirements. It is much easier, for instance, to say that a sixth-grade child should learn long division than to specify that he should be able to do long-division examples with a two-place divisor and a four-place dividend, with a naught at the end of the answer or a remainder, requiring the use of a trial divisor, or with any combination of these difficulties, at the rate of two in three minutes with 100 per cent accuracy. It is much easier to say that every child shall know something about the discovery of America than to specify that every child shall know that it was Columbus who discovered America in 1492, that it was Queen Isabella who financed him, and that he was trying to find a short route to the Indies. Yet it is the latter type of statement in arithmetic, history, geography, spelling, formal language, and all other subjects dealing with

definite content or skill, to be acquired by all children, that makes individual work possible.

Specific statements as to what children must master should of course be determined by research wherever possible. The classroom teacher, however, in most school systems has neither the training nor the necessary facilities for doing a piece of original research. She will have to rely upon research that has been done by others, or, in many cases where research has not been done, upon her own good common sense. But she can be definite.

The first step, then, in individualized teaching requires the teacher or group of teachers to set down in black and white *exactly* what it is that they expect every child to *master*. This list is for the teacher's own use in the succeeding steps of her work and is not to be put in the hands of the child. It must be clear; and it must not be in outline form, but in the form of specific statements as to exactly what things the child must master and how well he must master them. Any teacher, anywhere, with a little thought can take this first step. It is of fundamental importance.

It will help teachers in specifying their objectives if they will keep a clear line of demarcation in their minds and on their paper between those things which they want every child to master and in which therefore they want all children to be alike, and those things in which children may legitimately differ. The appreciation of art, music, and literature, the reading done by individual children, creative work of all kinds, a certain amount of general background of discussion and activity in the social studies — such things as these need not be mastered in the same degree or in the same manner by all children; we will come back to them later. But a certain skeletal knowledge of the outstanding and best-known events in history, of a few of the most important features of geography, skill in common computation, reading, writing,

and spelling — these things must be mastered equally by all children. They are the knowledges and skills that the teacher must specify with exactness as objectives to be attained.

COMPLETE AND DIAGNOSTIC TESTS ESSENTIAL

The second step in the individualized teaching program follows easily. There must be complete, diagnostic tests to cover the objectives the teacher has specified. The purpose of these tests should not be to mark the children. The purpose should be to find out where each child needs help. For this reason the tests cannot be the rough sampling tests that are common in recitations and schoolroom examinations, and even among standardized tests. Every item that is included in the list of things that the child must master must be included in the diagnostic test. This means, of course, that the tests will have to be broken up into small units and the child tested on a few items at a time.

These tests should take the place of recitations — these tests and accompanying opportunities for self-correction, which will be described in a moment. A recitation calls upon one child for only a very small part of what he is supposed to learn. A complete, diagnostic test calls upon each child for everything that he is supposed to learn. A recitation gives the teacher a rough notion of what the class as a whole knows. A complete, diagnostic test tells the teacher specifically where each individual child needs help.

Once a teacher has prepared in detail and with the utmost definiteness her list of specific requirements, the preparation of complete, diagnostic tests to cover these items is not very difficult. It will usually help her, however, if she has for reference at least some samples of the carefully worked-out diagnostic tests which are available in some subjects, such as those prepared by the teachers in Winnetka.

It is not necessary for all the children in a class to take the tests at the same time. Each child can take a test on a given unit of work when he is ready for it and then can begin to practice on his weak points. It is necessary, however, for the teacher to prepare her complete, diagnostic tests in several forms, all the exact equivalent of the others, all covering the same ground but asking the questions in different ways or giving similar examples that have different answers. This is easier to do in skill subjects like arithmetic, formal language, and grammar than it is in content subjects, like history and geography. But it can be done in both.

In our own schools in Winnetka we always give the children at least one form of every diagnostic test as a practice test. We allow them to correct this themselves and to do the necessary remedial work indicated by the mistakes they have made. As a matter of fact, we usually prepare each test in from five to seven equal forms, letting the children have two or three forms for practice tests and retaining three or four forms as real tests, different forms to be used with different children or even with the same child in case he makes mistakes on one or more forms.

The importance and value of complete, diagnostic tests to cover all the things one wants every child to master cannot be too greatly emphasized. Such tests are of the utmost help to the teacher under any conditions. Without them she necessarily does much bungling in the dark.

NEED FOR SELF-INSTRUCTIVE AND SELF-CORRECTIVE TEACHING MATERIALS

The third step in the teaching procedure, and for the classroom teacher much the most difficult one, is the making of materials which are self-instructive and self-corrective. As a matter of fact, many classroom teachers simply cannot prepare such materials. Fortunately, however, other teachers