THE MEASUREMENT OF INTELLIGENCE

AN EXPLANATION OF AND A COMPLETE GUIDE FOR THE USE OF THE STANFORD REVISION AND EXTENSION OF

The Binet-Simon Intelligence Scale

BY

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EDITOR'S INTRODUCTION

THE present volume appeals to the editor of this series as one of the most significant books, viewed from the standpoint of the future of our educational theory and practice, that has been issued in years. Not only does the volume set forth, in language so simple that the layman can easily understand, the large importance for public education of a careful measurement of the intelligence of children, but it also describes the tests which are to be given and the entire procedure of giving them. In a clear and easy style the author sets forth scientific facts of far-reaching educational importance, facts which it has cost him, his students, and many other scientific workers, years of painstaking labor to accumulate.

Only very recently, practically only within the past half-dozen years, have scientific workers begun to appreciate fully the importance of intelligence tests as a guide to educational procedure, and up to the present we have been able to make but little use of such tests in our schools. The conception in itself has been new, and the testing procedure has been more or less unrefined and technical. The following somewhat popular presentation of the idea and of the methods involved, itself based on a scientific monograph which the author is publishing elsewhere, serves for the first time to set forth in simple language the technical details of giving such intelligence tests.

The educational significance of the results to be obtained from careful measurements of the intelligence of children can hardly be overestimated. Questions relating to the choice of studies, vocational guidance, schoolroom proced-

ure, the grading of pupils, promotional schemes, the study of the retardation of children in the schools, juvenile delinquency, and the proper handling of subnormals on the one hand and gifted children on the other, — all alike acquire new meaning and significance when viewed in the light of the measurement of intelligence as outlined in this volume. As a guide to the interpretation of the results of other forms of investigation relating to the work, progress, and needs of children, intelligence tests form a very valuable aid. More than all other forms of data combined, such tests give the necessary information from which a pupil's possibilities of future mental growth can be foretold, and upon which his further education can be most profitably directed.

The publication of this revision and extension of the original Binet-Simon scale for measuring intelligence, with the closer adaptation of it to American conditions and needs, should mark a distinct step in advance in our educational procedure. It means the perfection of another and a very important measuring stick for evaluating educational practices, and in particular for diagnosing individual possibilities and needs. Just now the method is new, and its use somewhat limited, but it is the confident prediction of many students of the subject that, before long, intelligence tests will become as much a matter of necessary routine in schoolroom procedure as a blood-count now is in physical diagnosis. That our schoolroom methods will in turn become much more intelligent, and that all classes of children, but especially the gifted and the slow, will profit by such intellectual diagnosis, there can be but little question.

That any parent or teacher, without training, can give these tests, the author in no way contends. However, the observations of Dr. Kohs, cited in Chapter VII, as well as the experience of the author and others who have given courses in intelligence testing to teachers, alike indicate that

sufficient skill to enable teachers and school principals to give such tests intelligently is not especially difficult to acquire. This being the case it may be hoped that the requisite training to enable them to handle these tests may be included, very soon, as a part of the necessary pedagogical equipment of those who aspire to administrative positions in our public and private schools.

Besides being of special importance to school officers and to students of education in colleges and normal schools, this volume can confidently be recommended to physicians and social workers, and to teachers and parents interested in intelligence measurements, as at once the simplest and the best explanation of the newly-evolved intelligence tests, which has so far appeared in print.

ELLWOOD P. CUBBERLEY.

PREFACE

THE constant and growing use of the Binet-Simon intelligence scale in public schools, institutions for defectives, reform schools, juvenile courts, and police courts is sufficient evidence of the intrinsic worth of the method. It is generally recognized, however, that the serviceableness of the scale has hitherto been seriously limited, both by the lack of a sufficiently detailed guide and by a number of recognized imperfections in the scale itself. The Stanford revision and extension has been worked out for the purpose of correcting as many as possible of these imperfections, and it is here presented with a rather minute description of the method as a whole and of the individual tests.

The aim has been to present the explanations and instructions so clearly and in such an untechnical form as to make the book of use, not only to the psychologist, but also to the rank and file of teachers, physicians, and social workers. More particularly, it is designed as a text for use in normal schools, colleges, and teachers' reading-circles.

While the use of the intelligence scale for research purposes and for accurate diagnosis will of necessity always be restricted to those who have had extensive training in experimental psychology, the author believes that the time has come when its wider use for more general purposes should be encouraged.

However, it cannot be too strongly emphasized that no one, whatever his previous training may have been, can make proper use of the scale unless he is willing to learn the method of procedure and scoring down to the minutest detail. A general acquaintance with the nature of the individual tests is by no means sufficient.

Perhaps the best way to learn the method will be to begin by studying the book through, in order to gain a general acquaintance with the tests; then, if possible, to observe a few examinations; and finally to take up the procedure for detailed study in connection with practice testing. Twenty or thirty tests, made with constant reference to the procedure as described in Part II, should be sufficient to prepare the teacher or physician to make profitable use of the scale.

The Stanford revision of the scale is the result of a number of investigations, made possible by the coöperation of the author's graduate students. Grateful acknowledgment is especially due to Professor H. G. Childs, Miss Grace Lyman, Dr. George Ordahl, Dr. Louise Ellison Ordahl, Miss Neva Galbreath, Mr. Wilford Talbert, Mr. J. Harold Williams, and Mr. Herbert E. Knollin. Without their assistance this book could not have been written.

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PART I

PROBLEMS AND RESULTS

THE MEASUREMENT OF INTELLIGENCE

CHAPTER I

THE USES OF INTELLIGENCE TESTS

Intelligence tests of retarded school children. Numerous studies of the age-grade progress of school children have afforded convincing evidence of the magnitude and seriousness of the retardation problem. Statistics collected in hundreds of cities in the United States show that between a third and a half of the school children fail to progress through the grades at the expected rate; that from 10 to 15 per cent are retarded two years or more; and that from 5 to 8 per cent are retarded at least three years. More than 10 per cent of the $400,000,000 annually expended in the United States for school instruction is devoted to re-teaching children what they have already been taught but have failed to learn.

The first efforts at reform which resulted from these findings were based on the supposition that the evils which had been discovered could be remedied by the individualizing of instruction, by improved methods of promotion, by increased attention to children's health, and by other reforms in school administration. Although reforms along these lines have been productive of much good, they have nevertheless been in a measure disappointing. The trouble was, they were too often based upon the assumption that under the right conditions all children would be