

MEASUREMENT AND EVALUATION IN THE SECONDARY SCHOOL

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LONGMANS, GREEN AND CO.

NEW YORK • LONDON • TORONTO

1946

LONGMANS, GREEN AND CO., INC.
55 FIFTH AVENUE, NEW YORK 3

LONGMANS, GREEN AND CO. LTD.
OF PATERNOSTER ROW
43 ALBERT DRIVE, LONDON, S.W. 19
17 CHITTARANJAN AVENUE, CALCUTTA
NICOL ROAD, BOMBAY
36A MOUNT ROAD, MADRAS

LONGMANS, GREEN AND CO.
215 VICTORIA STREET, TORONTO 1

GREENE, JORGENSEN & GERBERICH
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PUBLISHED SIMULTANEOUSLY IN
THE DOMINION OF CANADA BY
LONGMANS, GREEN AND CO., TORONTO

FIRST EDITION FEBRUARY 1943
REPRINTED DECEMBER 1944
MAY 1946, DECEMBER 1946

PRINTED IN THE UNITED STATES OF AMERICA
VAN REES PRESS • NEW YORK

PREFACE

This book is designed especially for the use of high school teachers and students of secondary education. It presents a practical introductory discussion of the essential principles of measurement and evaluation in the secondary school. This volume is essentially a completely revised and expanded treatment of an earlier volume which appeared under the title of *The Use and Interpretation of High School Tests* in 1936. The 1936 edition of the book was itself a revision of a general text entitled *The Use and Interpretation of Educational Tests* which first appeared in 1929. Just as this first general volume later seemed to be somewhat unsuited for the use of both elementary and secondary school teachers, certain inadequacies in the illustrative materials and recent significant changes in point of view and in methods and techniques of measurement since the appearance of the 1936 edition have served to make desirable this further revision.

Students and teachers whose major interests are in the high school represent the group specifically addressed in this volume. A second volume, parallel in general organization and treatment, is just as specifically addressed to those teachers and students who primarily face the problems of instruction, measurement, and evaluation at the elementary school level. In each volume, the illustrations, examples, and problems are chosen from material designed for use in the grades and subjects under consideration. Many of the problems of measurement are common to both the secondary and elementary levels. However, illustrations are more meaningful if taken from fields close to the interests of the students and teachers. The revision of these two volumes succeeds in bringing this treatment of measurements and evaluation in education quite up to the best educational thought and practice current in 1942.

The decade just past has been marked by many important developments in curricular points of view, in instructional methods, in measurement and evaluation techniques. In this revision of the secondary school volume a special effort

has been made to broaden the point of view reflected by the authors in their earlier treatments and to introduce the student to an easily comprehended discussion of the newest and best evaluation techniques which have thus far appeared in each of the junior and senior high school fields. In this treatment an increased emphasis is given to the methods and materials designed for the measurement of intelligence and the evaluation of certain of the more intangible aspects of the individual's personality. Many of the instruments and procedures presented here are newcomers to the field of measurement. Some have only recently proven their dependable worth for the educational practitioner.

In this volume the authors have placed a heavy stress on the crucial problems of improving the teacher-made examination and test. By principle and by example the construction, use, improvement, and interpretation of all types of evaluative and measuring instruments are treated in detail. Completely new material is presented on the measurement of personality and in the field of business education. The simplified treatment of the statistical problems related to measurement and evaluation presented in the earlier editions of these books is continued in this volume. Completely new problems dealing with the interpretation of test results closely related to the high school teacher's actual needs have been prepared. A completely new revision of the work-book to accompany this text is also available.

This revised volume is planned to provide a complete and systematic handbook for any student or teacher requiring a straightforward discussion of a large portion of the fundamental ideas and techniques of evaluation in secondary education. It is written from the point of view of the classroom teacher. At all possible points over-technical language is avoided. In instances in which technical language cannot be avoided, such terms are introduced in context, defined, and illustrated. Many words which lie outside of the experience of the reader are included in the *Glossary*.

To the classroom teacher, the high school principal, the supervisor of the secondary school grades, as well as to the normal school and college and university student, this volume offers carefully selected suggestions of ways in which

measurement and evaluation instruments may be effectively used in improving the results of teaching. In addition, many general hints are given for the guidance of the student and teacher in constructing, selecting, using, and interpreting educational tests as valuable aids in accomplishing this task.

Grateful acknowledgment is here expressed to the many experienced teachers and supervisors who have contributed directly and indirectly to the formulation of much of the material incorporated into this volume. The authors are especially indebted to the many users of the earlier editions of this text who by their friendly and critical comments have stimulated the development of this volume in its present form.

EDITOR'S INTRODUCTION

The war and the work of the peace to follow have radically changed the status of the American high school. Those who love and are influenced by facts, in spite of the debilitating effect of their own memories of the good old *easy* days before the war, will agree in substance to the next considerations.

It has always been proper, nice, and professional to measure objectively the products of student and teacher effort in the secondary school, but it has rarely been imperative to do so. High school principals may, now and then, have lost their positions because of a series of unfortunate campaigns in football or basketball or even music contests but rarely if ever because of unfortunate campaigns in plane geometry, physics, or machine shop.

It's different now. We had better adjust ourselves to reality, whether we like it or not. It is now clear that those who earn their daily bread by high school teaching or administration must produce mastery of mathematics, science, and English as never before. The government, industry, and the university will insist upon competence in the graduates of our secondary schools. They have tolerated a winning football team *for sure* and a winning chemistry class *maybe* in the past. From now on it will be a winning chemistry class *for sure* and a winning football team *maybe*. It is as simple as it is vital. Competence in education is based on knowing the facts of student accomplishment. Knowledge is power.

Knowing the facts is based on objective measurement. Objective measurement is not a bit of educational philosophy or pedagogical phantasy. It is a living, active part of the total organic school. Measurement as a procedure needs tools, materials, manuals of directions and interpretations. An adequate book on measurement in the secondary school is an obvious, reasonable "must" for educational technology. Such a book is this one by Greene, Jorgensen, and Gerberich.

Previous editions of this book have proven dependable and welcome instruments of instruction and guidance in the field

of educational tests and measurements. For years young teachers have gotten their first grasp of the problems and possibilities of measurement through a study of the carefully and intelligently written pages of the previous editions. Principals and classroom teachers have used them in planning and prosecuting the actual measurement of actual students in a great variety of ways. This successful past is to the advantage of the present edition.

Even the most successful book should not rest on its oars. In education, as well as in other fields, new information becomes available, new points of view appear, a new assortment of emphases here and there becomes wise, and old editions of books become less and less useful. The authors of this text are wise in doing two things in the present edition: (1) maintaining the effective presentation of the whole problem of educational measurement in good proportion and with common-sense perspective, and (2) bringing the content, both in its detailed and its larger phases, thoroughly up to the best thought and practice available to us in 1942.

The present edition has taken advantage of constant responsible contact on the part of the authors with the technology of measurement and evaluation. The authors of the previous editions have invited another experienced author to join them in the preparation of the present edition. This edition intends to earn the confidence of active students and workers in measurement for its day which previous editions so amply earned in their day.

Classroom teachers, supervisors, and those in training for teaching or supervision will find this book a carefully-written fundamental text on the principles of measurement and evaluation in education. The main contribution of the book to the growing literature on measurement is, I think, not so much in novel points of view or advances in the technicalities of test construction as in plainness of exposition and balance in treatment of many points which to some would otherwise seem over technical. It should be thought of as a basic book in measurement and evaluation for those who at the time of studying it know very little, if anything, about measurement in education and its application to the problems of improving classroom instruction.

A careful examination of the book will reveal a book not only excellent in content, as such, but also an effective learning instrument for students. A major tendency of collegiate teaching is to stress factors of presentation as well as value of content. Hence a liberal supply of practice problems and exercises requiring the use of critical judgment on the part of the student constitute an essential part of this book. The instructor may sometimes deem it wise to supply occasions for the more actual "doing of the job itself" than exercises in a single volume can prudently provide to meet this further need.

Professors Greene and Crawford have prepared a *Work-Book in Educational Measurements*. The present book and the *Work-Book* supply to the college teacher and his students coordinated learning units in the field of educational measurements. Not only is the student taught, but he is given sufficient carefully-graded practice in measurement that upon mastery of the books he can face the problems of measurement in actual school situations with considerable confidence in his ability to solve such problems with success.

Teachers must have an understanding of educational tests and the interpretation and use of test results. This book is definitely designed to meet in a frank and reasonable way the need for such training. It is a basic text for classroom use in courses in educational tests and measurements. It is also well adapted for use in connection with extension classes and correspondence courses.

Copies of previous editions of this book have been used for ready reference by directors of measurement, by supervisors of subject matter who have had to do their own measuring, and by building principals and classroom teachers. We expect the present edition to be an even more satisfactory ready reference book than were the previous editions.

F. B. KNIGHT.

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