

**MEASUREMENT AND EVALUATION
OF HEALTH EDUCATION**

With Contributions on Qualitative Evaluation
By

Allan B. Steckler, DR.P.H.

Professor and Associate Dean
Department of Health Behavior and Health Education
School of Public Health
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

and

Robert M. Goodman, PH.D., M.P.H.

Associate Professor
Department of Health Promotion and Education
School of Public Health
University of South Carolina
Columbia, South Carolina

MEASUREMENT AND EVALUATION OF HEALTH EDUCATION

Third Edition

By

MARK B. DIGNAN, PH.D., M.P.H.

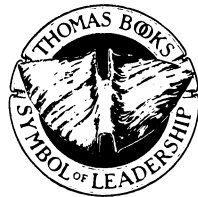
Associate Professor

Department of Family and Community Medicine

Bowman Gray School of Medicine of

Wake Forest University

Winston-Salem, North Carolina



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For Kay

PREFACE

This book is intended as a text for those interested in the evaluation of health education and health promotion programs. In addition to students, this text is also intended for health professionals and others who find themselves needing to know about program evaluation but whose training did not include the subject. The text does not presume that readers have an extensive background, but an appreciation of the concepts underlying health education and health promotion and a basic awareness of statistics will prove helpful. Neither is a prerequisite to understanding, however.

This is the third edition of *MEASUREMENT AND EVALUATION OF HEALTH EDUCATION*. As in previous editions, this text is based on the notion that measurement and evaluation are linked: measurement is one of the fundamental tools needed for evaluation, and evaluation design provides the direction needed to use measurement effectively. The text is organized into two main sections. The first section focuses on measurement and includes chapters on measurement theory, accuracy, and applications to measurement of knowledge, attitudes and behaviors. The second section presents the principles of evaluation and includes chapters on evaluation design, data analysis and presentation of results. Several notable changes from previous editions have been introduced in this third edition of the text, most notably greater emphasis on evaluation of health education programs conducted in community settings. An emphasis on evaluation of programs for the community, as opposed to those for clinical populations or schools, is important because community programs bring with them much of the uncertainty and complexity faced by those conducting evaluations. Discussion of the complexity and uncertainty in evaluation is critical to developing an understanding of program evaluation. In addition to the emphasis on community health education programs, description and discussion of measurement instruments has been expanded in the third edition, and presentation of validity and reliability has been broadened. Finally, the treatment of the

qualitative approach to evaluation that was provided so well by Allan Steckler and Bob Goodman in the second edition has been retained.

Since publication of the second edition of *MEASUREMENT AND EVALUATION OF HEALTH EDUCATION*, I have been privileged to share my work in program evaluation with a superb group of professional colleagues and students. I am indebted to these fine people for continually challenging me to examine and update my ideas on measurement and evaluation. I owe a special debt of gratitude to another group: those I have encountered in managing community health education projects. These people have continually amazed me with their creativity and insight into the challenges of conducting evaluations in community settings. Through our interactions, these people have reinforced one of the most lasting lessons from my upbringing: people should be judged on their merits as people and not by their level of academic training. Community health education depends heavily on such people, and I feel very lucky to have had their company from time to time.

Preparation of this edition of *MEASUREMENT AND EVALUATION OF HEALTH EDUCATION* was aided by the considerable talents of several key individuals. Carol Hill Thomas provided valuable editorial assistance, and her diligence and patience is appreciated. Allan Steckler and Bob Goodman contributed much of the content and examples regarding qualitative evaluation in the second edition. Their willingness to allow continued use of their work in the third edition is also appreciated. Finally, this revision would not have been completed without the encouragement, patience and input from my wife, Kay.

M.B.D.

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**MEASUREMENT AND EVALUATION
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Chapter 1

INTRODUCTION

Evaluation is the process of comparing observations with a standard. In this book, the observations we focus on are the activities and results associated with health education and health promotion. The standards we use in our evaluation are the expectations that we have for the programs.

Measurement is an integral part of evaluation. For our purposes in this book, we can define measurement as the process of assigning labels or values to observations. As you might guess, measurement of health education and health promotion programs is complicated. The complexity of measurement arises because we make choices in what to observe, in how to label our observations, and in what standards to use for comparison. For example, suppose we were to evaluate a weight management program for adults with diabetes. In collecting observations about the program, we could choose to focus on the participants' weights, assuming that effective management would be evident in how much the participants weighed. We could collect the participants' weights before, during and after the program and consider the change in weight as evidence of the program's effectiveness. Just as there were choices to be made with the observations, the standards that we use to compare with what we observe could also come from a variety of sources. One source of standards could be a table of ideal body weights used to reference each individual's weight. If the ideal body weight table is used as the standard, the program results would be interpreted in terms of how the participants' weights moved toward the ideal body weight during the program.

An alternative approach to the evaluation of a weight management program for diabetes might include an assessment of the participants' knowledge of meal planning. Measuring the participants' knowledge of how to plan meals might seem like a good idea because it would give us information about a change occurring within the individual (ability to plan meals) as a result of the program that could be used in controlling diabetes, as well as in managing weight. We could derive the standards

for evaluating meal planning skills based on measurements collected at the beginning of the program. These measurements would then serve as a “baseline” standard for comparing measurements carried out during and after the program. If the program is effective, the participants’ meal planning skills would improve as shown by measurements made during and after the program.

Evaluating the weight management program in terms of body weight would provide evidence of the overall effectiveness of the program, but would not tell us very much about whether the participants learned how to keep the weight off without help from the program. Focusing on meal planning, on the other hand, would give information about weight management skills but would not tell us whether the skills could be used effectively. Figure 1-1 illustrates our dilemma.

Evaluation Option A

The participant’s weight is the most important outcome for the program. The program will only be successful if a participant can get closer to his/her ideal weight.

Program Objectives

Adults with diabetes need to learn to manage their weight. This program will manage their diet, thereby helping them get closer to their ideal weight. Participants will also learn how to plan their meals, which will build their skills and enable them to manage their weight on their own.

Which option to Choose,
A, B or Both ?

Evaluation Option B

Getting closer to their ideal weight is not the most important outcome for the program. If the participant has not learned how to manage his/her weight, they will soon be right back to the unhealthy weight where they were before they participated in the program.

Figure 1-1. The statement on the left summarizes the objectives of the weight management program. Two options for program evaluation are shown on the right as Evaluation Options A and B.

Why not measure body weight and meal planning skills? If we weighed the participants and measured their meal planning skills as well, then we