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Chapter I

Measurement and Assessment Supporting Evaluation in Online Settings

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Abstract

This chapter introduces an evaluation framework for interpreting online measurement and assessment as components of evaluation as an introduction to the other chapters in this volume. The evaluation framework includes attention to the evaluation context, stakeholders, evaluand (thing or person being evaluated), issues and concerns, values and criteria, questions, data collection and analysis, and reporting results, conclusions, and recommendations. This framework incorporates online measurement and assessment issues as important elements in evaluations of programs, personnel, and students.

Introduction

The following 18 chapters of this volume explore emerging practices in the use of online assessment and measurement to conduct evaluations of student learning (including tests, surveys, portfolios, and other assessments), educational programs, and personnel. Standards for judging the quality of evaluations in terms of utility, feasibility, propriety, and accuracy have been developed over the last 30 years by the Joint

Committee on Standards for Educational Evaluation (1984, 1988, 2003). Those who created these standards and many other independent scholars (e.g., Carey, 2001; Kubiszyn & Borich, 2003; Popham, 2000; Tanner, 2001; Thorkildsen, 2005; Ward & Murray-Ward, 1999) often use the words *assessment, measurement,* and *evaluation* as synonyms.

But when they describe the use of these three concepts, most authors appear to assume measurement is a means to assessment, and assessment is one important component of a much more complicated process called evaluation. Therefore, in this volume we differentiate among these terms to help readers appreciate the importance of all three concepts and how they can be used to improve measurement, assessment, evaluation, and the online learning and testing the volumes in this series are exploring.

Evaluation involves describing what is and what should be, and comparing the two. To gather information about what is, as well as what should be, assessment is an essential tool. And most assessments involve some kind of measurement process built upon theories of measurement. Scriven (1991), a noted evaluation theorist, summarizes each of these terms:

> *Measurement [is] a determination of the magnitude of a quantity, typically on a criterion-referenced test scale or on a continuous numerical scale. Whatever is used to do the measurement is called the measurement instrument. It may be a questionnaire or a test or an eye or a piece of apparatus. In certain contexts, we treat the observer as the instrument needing calibration or validation. Measurement is a common and sometimes large component of standardized evaluations, but a very small part of its logic, that is, of the justification for the evaluative conclusions.* (p. 266)

> *Assessment [is] often used as a synonym for evaluation in which the judgment [usually associated with evaluation] is built into the context of the numerical results. Raw scores on a test of no known content or construct validity would not be assessment; it is only when the test is—for example—of basic mathematical competence that reporting the results constitutes assessment in the appropriate sense, and of course the judgment of validity is the key evaluative component in this. Another part of the assessment movement, strongly supported in schools as well as colleges, is the move away from paper-and-pencil testing toward something more judgmental and global.* (p. 60)

> *The key sense of the term 'evaluation' refers to the process of determining the merit, worth, or value of something, or the product of that process. Terms used to refer to this process or part of it include: appraise, analyze, assess, critique, examine, grade, inspect, judge, rate, rank, review, study, test, measure. The evaluation process normally involves some identification of relevant standards of merit, worth, or value; some investigation of the performance of evaluands on these standards; and some integration or synthesis of the results to achieve an overall evaluation. It contrasts with the measurement process, which also involves the comparison of observations*