

Mixed-methods design for an objective-based evaluation of a magnet school assistance project

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Abstract

This article describes and discusses the development and implementation of an evaluation design to assess a magnet assistance project, which integrates a mixed-methods approach into the objective-based evaluation. By combining both quantitative and qualitative methods, this design can address some of the weaknesses of objective-based approach in the process of evaluation. Functions of mixed-methods approach, such as initiation, triangulation, complementarity and development can possibly contribute to improving program progress, avoiding information narrowness and uncovering side effects. The examination of this design also reveals that the mixed-methods approach is not only possible, but more effective, and has higher validity. The mixed-methods is a more useful and accountable approach, which can be used in integration with the traditional objective-based approach to conceive and implement evaluation, especially in program evaluations with broader audiences, longer terms, and more complex goals.

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1. Introduction

Evaluation is widely used to examine and judge the worth, merits and shortcomings of various educational programs through collecting and analyzing data. It serves as an important instrument in the improvement process of educational quality. Because of the complexity of the evaluation objects and the evaluators' different philosophical views of evaluation, the topic of evaluation approach has attained critical status in both research and practice. Worthen, Sander, and Fitzpatrick (1997) described six approaches of evaluation. Stufflemean (2001) identified 21 approaches often employed to evaluation programs by categorizing them into pseudoevaluations, questions- and methods-oriented evaluation approaches, improve/accountability approaches, and social agenda/advocacy approaches. Objective-based and mixed-methods were included in

the category of questions- and methods-oriented evaluation approaches (quasi-evaluation studies).

The education evaluation field has increasingly recognized the benefits of using the views of system, multiplicity, and integration in both research and practice. The mixed-methods approach, which is broadly used and discussed, technically represents this trend. This article describes and discusses the development and implementation of an evaluation design to assess a magnet assistance project with a strong emphasis on methodological issues. This design integrates mixed-methods, an intensely-discussed topic over the past decade, into the classic and prevalent objective-based evaluation.

2. Theoretical review of the two evaluation approaches

2.1. Objective-based approach

The objective-based approach specifies the purpose of educational programs and determines if or to what extent,

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these objectives have been attained. Its procedure of having objective achievement judge the extent of success or failure is straightforward. Its purposes of justifying improvements, maintenance, and termination of program activity are practical. For these reasons, the objective-based approach has dominated the thinking and development of evaluation since the 1930s, both in the United States and elsewhere (Madaus & Stufflebeam, 1989). Evaluation researchers and practitioners have been contributing their efforts in designing, redesigning and improving this approach.

Ralph Tyler, regarded as the pioneer in the objective-based approach viewed evaluation as the process of determining the extent to which the objectives of a program are actually attained. He emphasized the use of filtering goals and objectives based on the rationale of being logical, scientifically acceptable, and readily adoptable by evaluators (Worthen et al., 1997). Metfessel and Michael (1967) proposed an eight-step model to enrich the Tylerian approach by adding more pragmatic ideas such as involving stakeholders as facilitators, carrying out periodic observations, and developing recommendations for the further implementation, modification, and revision of broad goals and specific objectives. Provus (1971) used the Tylerian tradition in designing the Discrepancy Evaluation Model, which was based on the rationale that evaluation is a continuous information-management process designed to serve as the watchdog of program management and the handmaiden of administration on the management of program development through sound decision-making. He also used new terms such as enabling objective (student achievement acquired during the program to ensure the accomplishment of the major program objectives), terminal objective (immediate outcomes) and ultimate objective (long-term outcomes) in the stages of process and product. Hammond (1973) developed a cube model by applying a three-dimensional framework for analyzing a community-based youth program. Stufflemean (2001) and Worthen et al. (1997) also discussed the developmental variations of the Tylerian evaluation model.

Although the objective-based approach has been extensively used in educational programs, it is commonly criticized because of its simplicity in operation, emphasis on defining outcomes, and focused use of behavioral objectives. Stufflemean (2001) described four major aspects being criticized: 'leading to terminal information that is neither timely nor pertinent to improve a program's progress; providing narrow information to judge the merits and worth of the program; being unable to uncover the positive and negative side effects; and crediting unworthy objects' (p. 18).

2.2. Mixed-methods approach

Evaluation theory and practice today are characteristically pluralistic, embracing diverse perspectives, methods, data, and values within and across studies that aim to

generate more insightful and meaningful evaluative claims (Caracelli & Greene, 1997). The wide use of the mixed-methods approach stems from the perception that it is particularly necessary to apply multiple ways of knowing and acting in evaluation because educational problems are increasingly complex and intractable. By looking at educational phenomenon through both quantitative and qualitative lenses, mixed-methods approach is intended to ensure dependable feedback on a wide range of questions; benefit in in-depth understanding of the programs; display a holistic perspective; and enhance the validity, reliability and usefulness of the full set of findings (Stufflemean, 2001). Evaluation designs using mixed-method research (Brewer & Hunter, 1989; Mark & Shotland, 1987), and specifically combining qualitative and quantitative methods (Cook & Reichardt, 1979; Crewell, 1994; Reichardt & Rallis, 1994), have become a part of methodological guidance for the practitioner (Caracelli & Greene, 1997). 'In this troubled era, with social problems of ever-increasing complexity and intractability, multiple ways of knowing and acting are surely needed' (Greene & Caracelli, 1997, p. 15).

Advantages of using mixed-methods are that they complement each other in ways that are important to the evaluation audiences (Stufflemean, 2001). Compared to single approach designs, mixed methods research can answer questions in a better way, provide stronger inferences, and provide opportunity for presenting a greater diversity of divergent views (Teddlie & Tashakkori, 2003). Quantitative methods provide relatively standardized, efficient, amenable information, which can be easily summarized and analyzed. Qualitative methods add contextual and cultural dimensions, which deepens the study by providing more natural information. Quantitative research is more directed at theory verification while qualitative research tends to be more concerned with theory generation (Punch, 1998).

3. Context and description of program

Since 1970s, magnet schools have been developed in more and more school systems. Magnet programs are often designed to promote racial diversity, expand educational choices, and improve student achievement by providing a unique or specialized curriculum or approach. Many of them also enhance parent/community involvement, prepare students for further education and/or careers in the world of work, provide field-based and hands-on learning experiences, and offer mentorship, internship, and apprenticeship opportunities. Dentler (1991) identified that a magnet school has the following four characteristics: a distinctive curriculum based on a special theme or instructional method; a unique district role and purpose for voluntary desegregation; voluntary school choice by the student and the parent, with variable criteria established for inclusion; and access to

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