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ABSTRACT

Prior to presenting a model for evaluating teacher education progams, it is pointed out that five major issues must be settled before attempting an evaluation: (1) the evaluation's purpose; (2) clients or audience; (3) specific questions to investigate; (4) use of an internal or external evaluator or a combination; and (5) dissemination of the evaluation and types of decisions to be made based on its results. The matrix of the model includes the following elements: (1) the philosophy and basic purposes of the program; (2) objectives or intended outcomes of the evaluation; (3) collection and assessment of data; (4) characteristics of students, faculty, college policy, program budget, and administration; (5) interactions between mentors and students in the actual working curriculum; (6) outcomes attributable to the program; (7) external factors impinging on the program; (8) standards against which the program's quality or value are measured; and (9) judgments on the quality, value, or effectiveness of the program and its components. These elements, their interpretations, and their interrelations are described and discussed. Four examples are given demonstrating how the model might be applied in actual evaluations. (JD)

EVALUATING TEACHER EDUCATION PROGRAMS

ERIC TEACHER EDUCATION MONOGRAPH NO. 2

A MODEL FOR EVALUATING TEACHER EDUCATION PROGRAMS

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FOREWORD

Recent concerns about the effectiveness of our schools voiced by many citizens and policy makers offer challenges as well to teacher education. The impact of parents and peer groups on the learning of our youth is well recognized. And the conditions of professional practice in schools exert a powerful influence on what teachers can do. But neither of these realities should obscure the important potential of the classroom teacher for creating quality learning opportunities in our schools.

Offering preparation programs that help tomorrow's teachers make a positive difference in school learnings is a demanding and often frustrating task. Certainly, it is a complex undertaking, and its complexity increases as Americans' demands upon public schools burgeon. Teacher educators face the difficulties of defining effective teaching in the context of today's varied classrooms; of inculcating requisite values, skills and knowledge in aspiring teachers; and of ensuring, insofar as it is possible to do so, that graduates reflect those learnings in their teaching. Further, teacher educators must compete with other career fields for candidates who bring to their education personal qualities that combine with rigorous preparation programs to produce competent teachers.

Teacher education is once again being criticized and challenged, both from within and outside higher education. While some of the criticisms are appropriate, some, as authors Nelli and Nutter point out, are based on inadequate or misinterpreted information. Clearly, those who administer and instruct in programs of teacher preparation have a special responsibility to evaluate those programs, both in terms of the challenges being raised by others and in relation to their own objectives for these training efforts.

This monograph is intended as a guide to improving the evaluation of programs of initial preparation for teaching and, ultimately, teacher preparation itself. The authors' model suggests application to a wide range of evaluation situations, providing many specific examples of each component.

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I

INTRODUCTION: THE SYLLOGISM

As teacher educators, our basic premise, our *raison d'etre*, is that we should make a positive difference in our students, who then, as teachers and because of that difference, make a positive difference in their pupils. In undertaking to evaluate teacher education programs, we evaluate whether and to what extent this premise is true.

In actual practice, this apparently simple idea becomes enmeshed in conflicting conceptions of terms and operational definitions. On one hand, teacher educators are engaged in an inherently conservative activity. We literally conserve accumulated knowledge and values about teaching, even to the point of ensuring that progress comes in ways consonant with the past. On the other hand, we subscribe to an inherently liberal proposition—that, through our actions, we can improve our students and their future pupils. Over the past decades, social forces have wrenched us from one extreme philosophy to another.

We pursue our work within a seemingly intractable network of social, political, and economic institutions at the national, state, and local levels. We serve multiple clients, including future teachers, school administrators, parents, employers, pupils, legislators, taxpayers, and the teaching profession. And, finally, our graduates, whose success is a measure of our success, serve in schools that are beyond our influence in crucial ways.

For clarity, let us reduce the basic premise of teacher preparation to a series of related statements:

> X is an effective teacher behavior, skill, attitude, or knowledge, i.e., it has certain desirable effects on pupils.
>
> Through our teacher preparation programs, we teach future teachers to do, believe, or know X.

Therefore, our future teachers become effective teachers, i.e., they produce those desirable effects in their pupils.

This syllogism is admittedly a gross oversimplification; but, regardless of its logical validity or factual accuracy, this line of reasoning has great psychological validity for teacher educators. More importantly, within this syllogism lie the major problems in conceptualizing and accomplishing the task of preparing teachers. Let us examine the components of the syllogism to uncover some of these problems.

X is an effective teacher behavior, skill, attitude, or knowledge, i.e., it has certain desirable effects on pupils.

But what is X? Teacher preparation programs differ in what they propose to teach, the basis for selecting what is taught, and the basis for believing that what is taught will produce desirable effects on future pupils.

Too often, what teacher educators believe to be effective or desirable teacher behaviors, skills, attitudes, and knowledge; the grounds on which they believe them to be effective; and what the positive effects on pupils are supposed to be are never made explicit in teacher preparation programs.

We derive our ideas about what to teach future teachers from a number of sources: logic, our own experience as teachers, teacher folklore and teacher education folklore, research, the advice of experts, recommendations from practitioners, fads, and specific philosophies and theories. Everything we teach—from unit planning to educational philosophy, from child development to eye contact—is supposed to make "better" teachers.

The research base for teacher preparation is in a state of healthy infancy and certainly is far stronger than what we incorporate in most preparation programs. However, even when we do have research to guide us, we find its usefulness limited. Knowledge about teaching, like most knowledge rooted in the social and behavioral sciences, is probabilistic and always subject to the variability of social context and individuals (Cronbach and Snow 1977). We always will be forced to draw on other sources and our professional judgment to determine curricula. Our most serious problem may not be lack of a research base for what we teach but the fact that we often cannot articulate exactly what it is we teach and why.

We teach our future teachers to do X.

But do we teach them? How much of the intended curriculum really is taught? How much do prospective teachers really learn, and how thoroughly? Teacher educators are getting better at assessing

students' active competence but still depend heavily on what Postman and Weingartner (1969) called the "Vaccination Theory of Education"—simply exposing students to knowledge and hoping that it takes.

One major problem is the longstanding lack of selectivity regarding whom teacher educators admit to and graduate from programs. In many cases, it appears that teacher educators take almost all comers, give them high grades, and graduate almost all who endure (Brubaker 1976; Kapel 1980; Nutter 1983). Either teacher educators do a superb job of teaching X to students of widely varying abilities, including some poor or unmotivated ones; or else, while they may teach it to some, they set their standards so low that they actually graduate some who have not learned it. Even when teacher preparation takes a competency-based or mastery approach, the criterion often becomes "the level of achievement that can be obtained by 98 percent of the students within one three-credit course." Teacher preparation programs differ in how well they teach to all students what they propose to teach and in how well they assess mastery. Few institutions can claim to do an outstanding job.

> Our future teachers become effective teachers, i.e., they produce those desirable effects in their pupils.

Or do they? Even if teacher educators assume that an individual graduate has mastered an adequate repertoire of generally effective teaching behaviors, there is no guarantee that the graduate will use those behaviors in the classroom, that the context will permit those behaviors, or that those particular behaviors will be appropriate or sufficient for the context.

The public now appears to want to hold teacher preparation institutions responsible for teachers' successes and failures, sometimes with narrow definitions of *success* and *failure*. Teacher educators must assess their graduates' performance in the context of the types of schools and children they serve, evaluate the programs that prepared those graduates to teach, and try to maximize the programs' success.

II

CONTEMPORARY APPROACHES TO EVALUATING TEACHER EDUCATION PROGRAMS

Contemporary approaches to evaluating teacher preparation programs are, at best, fragmented. Typically, program evaluation is sporadic, focused on some narrow aspect of a particular program, and relatively informal. However, as Adams and Craig (1983) noted, some attempt at program evaluation is more common than the literature indicates. Teacher educators do recognize the importance of evaluation and are constantly evaluating, at least informally, their courses and course components, student performance, the reactions of teachers to field-experience students—in sum, whatever concerns their daily work.

The most common formal evaluations are those conducted by external agencies such as the National Council for the Accreditation of Teacher Education (NCATE) and state departments of education for initial or continuing program approval. These formal external evaluations tend to be highly descriptive and to focus on comparing documents (syllabi, course and program objectives, catalogs, reports prepared by the institution) with standards for such things as specific courses, credit hours, areas of content, and faculty qualifications. As a result of time constraints, accreditation evaluations are fundamentally evaluations of programs as they exist on paper, with some attempt to verify the written descriptions during the brief time a visiting team is on campus.

State approval procedures in particular have not been known for rigor, for attention to quality, or for finding many teacher education programs deficient. In recent years, some state departments of education have taken a more aggressive stance in using their evaluative authority to promote effective teacher education, but their procedures remain entangled in state politics.

These external evaluations are valuable, even necessary; and their criteria and procedures for conducting evaluations are generally solid, defensible, and reasonable under the circumstances. However, accreditation evaluations have clearly defined and limited purposes and cannot supply all the feedback teacher educators need.

Increasingly, states are evaluating teacher preparation graduates' competence, typically through standardized, paper-and-pencil tests of basic skills; and secondarily, these states may use test results to evaluate teacher preparation programs. For example, there have been some attempts to withdraw state approval of programs whose graduates have low passing rates ("Florida . . ." 1983). However, while teachers must have basic skills, evaluative decisions about teachers and eventually about their training programs should not be made only on the basis of test scores, the relevance and significance of which are not yet clear.

The most common approach to internal program evaluation is the questionnaire completed by students at graduation or within the following year (Adams and Craig 1981, 1983). Such questionnaires indicate graduates' opinions of various aspects of their preparation programs and certainly yield valuable insights. By themselves, however, they provide insufficient data for program evaluation. Questions left unanswered by follow-up questionnaires include: To what extent are the graduates' opinions influenced by the socialization process they undergo in the schools (Gubser 1981)? To what extent are they affected by beginning teachers' short-term survival needs? To what extent do they reflect universal stresses and concerns of teaching, regardless of the quality and extent of the teacher preparation programs? To what extent do graduates take the preparation program's areas of success for granted and so do not identify these areas as high in importance?

Simple managerial models (focusing on formal administrative relationships) and systems-analysis models are sometimes used as the sole approach to evaluating teacher preparation programs. However, such business-oriented models assume that accountability flows upward through a hierarchy of workers to middle management to upper management to directors and stockholders. Businesses also possess some clear, concrete criteria for success in terms of productivity, cost/benefit, and profit. Outcome-oriented models, such as a behavioral objectives model, assume that only the product is important.

Teacher educators operate in a distinctly different milieu, with both upward and downward accountability. The institutional hierarchy is neither the sole nor, in terms of social mission, the primary focus of teacher educators' accountability. Teacher preparation dif-

fers radically from most businesses in that the "product" is also the most proximate, tuition-paying client.

Logic suggests that program evaluation should be an ongoing, comprehensive process within the teacher education institution (St. ' eam 1982; Dillon and Starkman 1981; Hord 1979). Evaluation should provide "an extensive record of the program that was actually implemented, how it compared to what was intended, a full account of the costs incurred in carrying it out, and, overall, how observers and participants judge the quality of the effort" (Stufflebeam 1982, p. 154). In other words, understanding the process of teacher preparation is as important as evaluating the product, and all clients can give useful insights.

III

AN OVERVIEW OF A NEW MODEL OF EVALUATION AND PREREQUISITES TO EVALUATION

We propose a model for evaluating teacher education programs based on a model developed by Robert E. Stake (1967) for evaluating curricular programs in public schools. We have adapted Stake's model with some modification of terminology and some elaboration of structure to fit teacher preparation programs.

Stake's approach is primarily transactional, providing the broad evaluative perspective appropriate for the complexity of teacher preparation programs. A transactional model requires participation by a wide range of concerned parties, not just "management" (House 1978), and so is more appropriate for teacher educators, who, given their multiple accountability and social mission, cannot practically or ethically operate from a simple management perspective. Other types of models are suitable for evaluations of limited aspects of programs and may be used within an encompassing transactional model.

The model presented here is intended to help organize thinking about evaluation and to serve as a model for designing an effective evaluation process within a given context. It is not intended to prescribe a lockstep approach to the actual process, because such a prescription would not be generalizable to all teacher education programs and to all evaluation situations.

In presenting this model, we address teacher educators or administrators with no special expertise in evaluation *per se*, but with a general knowledge of issues related to teacher education and extensive knowledge derived from their teacher education programs. In other words, we address knowledgeable educators evaluating either their programs or others' programs and needing a model

and specific examples to guide the evaluation process. We do not believe that teacher educators need evaluation experts to conduct evaluations that, while not the ultimate in sophistication and rigor, nonetheless yield useful information. Besides, teacher educators often have access to evaluation experts within the teacher education unit, the institution, or externally who can assist in implementing the model.

"Evaluator" and "teacher education faculty" are used as separate terms, although teacher educators will often be evaluating their own programs. The "evaluator" may well be a team of evaluators, composed of individuals with complementary knowledge, strengths, and perspectives.

PLANNING AN EVALUATION

Five major issues must be settled before the evaluation process begins. These are *purpose*, *audience*, *questions*, *evaluator*, and *utilization*.

Purpose

The first, essential, and often neglected step in conducting an evaluation is to determine its purpose. The purpose affects the types of data to be collected; the standards by which the program is evaluated; and, eventually, the types of action resulting from the evaluation. Basic distinctions of purpose include *formative* (evaluation to improve the program while it is functioning or being implemented) versus *summative* (an assessment of the overall effectiveness of a program and its results) (Scriven 1967); and *proactive* (evaluation to serve decision making) versus *retroactive* (evaluation to serve accountability) (Stufflebeam 1972). Purposes may be concealed; for example, an evaluation expected to result in the elimination of programs may be presented officially as a simple evaluation of status or a descriptive study. Evaluations may also be conducted for psychological or sociopolitical reasons, for example, to promote good public relations, motivate evaluees, cast blame and praise, or clarify lines of authority (i.e., who may evaluate whom) (Nevo 1980). The most common official purposes are to improve existing and developing programs and to eliminate weak ones. Smith (1977) discussed in detail the influence of political factors, social movements, and organizational influences on evaluation studies in education.

Audience

Defining purpose includes defining the audience or clients to be served. For teacher educators, the definition usually includes multiple audiences. *Audience* refers to "*the specific, relevant decision makers and*

information users (not vague, passive audiences) who will use the information that the evaluation produces" (Patton 1980, p. 59). From the perspective of teacher preparation programs, the clients or audience for a particular evaluation could include teacher education faculty and administrators, collegiate faculty and administrators, school administrators, state personnel, the public, teachers, students enrolled in the program, and others.

Questions

Patton (1978) noted that merely identifying the audience is not sufficient. Evaluation planners must also identify precisely what it is that specific groups want and need to learn from the evaluation. Determining the purpose of an evaluation also includes determining what questions the eventual clients need answered, which in turn determines the types of data to be collected and with what degree of rigor and credibility.

Evaluator

The purpose of an evaluation determines who will conduct the evaluation, with the major options being an internal evaluator or an external one.

Internal evaluators, people who have some degree of connection to a program and who perhaps developed it and work in it, offer significant advantages—familiarity with the program, its purposes, its constraints, and its faculty—and often have strong motivation to complete the evaluation in order to improve the program. Their disadvantages may include personal bias because of their stake in the evaluation's outcome, shortsightedness from overfamiliarity with the program, and possibly a lack of comparative experience with other programs.

External evaluators, those with some degree of distance from the program, offer advantages of relative objectivity (although they may be influenced by human relations), a fresh perspective, and usually some comparative experience. Explaining a program to an external evaluator may be enlightening in itself, and various audiences may regard an external evaluator's judgments as more trustworthy. On the negative side, external evaluators may bring to an evaluation preconceived notions, ignorance of the specific situation, and inadequate time and resources to consolidate and consider the relevant information.

A common compromise is to use both external and internal evaluators. By determining beforehand what questions should be

answered, the evaluation planners can select an evaluator or team of evaluators with appropriate skills and perspectives.

Utilization

Utilization, the final dissemination of the evaluation report and the types of decisions to be made based on the results, must be planned from the beginning. Often, evaluation results appear to go unheeded. Several steps can maximize the chances that evaluation results will make an impact.

First, all the various audiences must be involved in the evaluation process from the beginning. Second, an active communication system must present them with emerging evaluation data to review and interpret; and, third, the evaluation must arise from their specific information needs (Craig and Adams 1981). Finally, the evaluation report(s) must be written in language comprehensible to the various audiences, the data must be understandable, and the total report must be written so that practical applications can be drawn from it (Cooper 1983). Campbell (1979) recommended incorporating formal procedures that permit all interested parties to make additions and corrections to the official evaluation report.

Plans should also include a method for recording the evaluation process itself and monitoring whether external events affect it (Filstead 1979). The final report should enable readers to judge the depth, breadth, and integrity of the evaluation process.

Patton (1978), in a study of the impact of evaluation on federal programs, found that, aside from political factors, the most important factor in whether results were used was *personal involvement*:

> the presence of an identifiable indiv dual or group of people who personally cared about the evaluation and he information it generated. When such a person or group was present, evaluations were used; where the personal factor was absent, there was a correspondingly marked absence of evaluation impact. (p. 64)

He also found that evaluation—which is only one factor in ongoing program development—often has quiet impact by reducing uncertainty for decision making, promoting gradual change, and accelerating change that has already begun (pp. 31-34).

Planning for utilization from the very beginning, involving concerned parties in the evaluation processes, and deliberately guiding the evaluation toward usable results maximize the chances that those results will be heeded and that concrete actions (program revision, elimination, or enhancement) will occur based on them.

HELP WITH PRELIMINARY PLANNING

Stake (1976, pp. 36-37) listed 12 questions intended to clarify the agreement between an external evaluator and the contracting parties. This checklist serves as a useful orientation guide for any evaluation effort. Questions range from "Who wants an evaluation study?" to "What resources are available for the conduct of this study?" to "What would be a suitable plan for reporting the findings?"

Smith (1982) discussed in detail the preliminary steps in planning an evaluation: defining scope, purpose, questions, methods, and design. Roth's workbook (1981) provides assistance with planning, problem identification, and basic concepts of instrumentation and statistical analysis for evaluation.

IV

THE PARTS OF THE MODEL

Figure 1 displays a schematic of the proposed model for evaluating teacher education programs. The parts, their interpretation, and their interrelations are as follows.

RATIONALE

Rationale refers to the overriding philosophy and basic purposes of the teacher education program. Frequently, the rationale is implicit rather than stated.

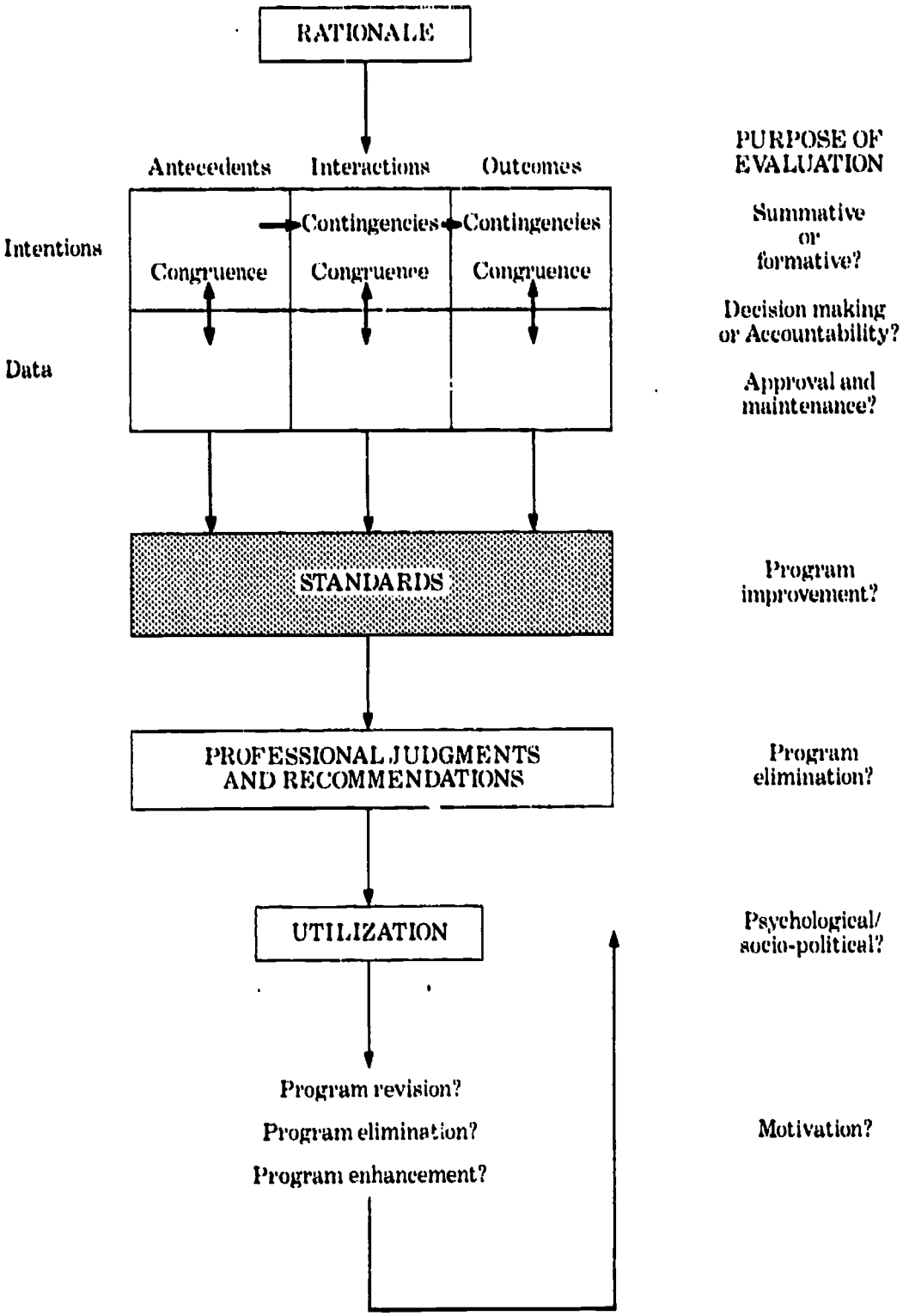
Whether implicit or explicit, the rationale requires examination. Where it is implicit, it must be made explicit. Where it is explicit, it must not be taken at face value but examined for coherence with all other aspects of the program. Otherwise, the evaluator will make judgments about whether a program accomplishes its purposes without knowing the broad basis for those goals. Official statements of guiding philosophy tend to be vague, all inclusive, and lofty. The evaluator has the task of eliciting more concrete details from the owners and clients of the program:

> Who are the proximate and ultimate groups affected by this program?
>
> How is it intended to affect them?
>
> What types of settings are the graduates to be prepared for and to serve what types of students?
>
> What specific concept of the teacher's role guides the program?

Even the answers to these questions are likely to be vague at first; the evaluator must probe until fairly concrete answers are obtained.

The importance of the rationale is, first, that it provides a basis

Figure 1: Schematic of a Proposed Model for Evaluating Teacher Education Programs



for selecting reference groups that will pass judgment on various aspects of the teacher education program and for selecting the specific standards by which the program should be judged. Second, the rationale provides the basis for judging whether all parts of the program—intentions, curriculum, and outcome—form a coherent whole. The rationale itself is subject to judgment and should be scrutinized closely; but, once accepted as legitimate and worthwhile, it strongly influences the bases on which the program may be found commendable or lacking.

Before considering the cells of the matrix shown in Figure 1, we will briefly define each category.

THE MATRIX

Intentions

Intentions refer to what teacher educators variously call goals, objectives, or intended outcomes, however they choose to formulate them. In other words, intentions are those aspects of the teacher education program that are deliberately planned.

Teacher educators generally recognize the importance of making some of their intentions explicit; for example, teacher educators usually write objectives. The weaknesses have been in specifying other types of intentions, linking intentions specifically to curricula, and then linking intentions to actual outcomes of programs.

Frequently, intentions are vague and unspecified for a given teacher preparation program. Teacher preparation curricula may arise from tradition, historic accretion, imitation of other programs, piecemeal responses to external standards (e.g., state minimum requirements for certification), fads, or the interests of key faculty, with little or no attempt to consider intentions independent of existing curricula. It is difficult to focus first and only on what a teacher education program should be.

Data

Data are those descriptive facts evaluators collect by whatever means to assess whether program intentions are in fact realized and whether significant, unintended events occur.

Formal benchmark data for teacher education do not exist in most cases, and comparison across institutions is often difficult or politically impossible. Where data do exist or can be collected, they tend to relate to limited, albeit important, aspects such as enrollments, credit hours, salaries, budget, and staffing ratios, but generally with no uniformity in compiling and reporting the data. Peseau and col-

leagues (e.g., Peseau and Orr 1979, 1980; Peseau 1982) have begun to compile and analyze benchmark data on teacher education (staffing, budget, etc.), but at present little else is available. To a great extent, comparative data must derive from the evaluator's own experience—personal familiarity with both the history and current status of teacher education, similar programs and contexts, and theory and research in teacher education.

Given the general lack of standard categories, the evaluator necessarily makes subjective decisions about which data to collect and review. The evaluator should be guided by the previously developed elements: the information needs of both clients and owners of the program, the evaluation questions, and the rationale and intents specified by the teacher education faculty. While the evaluator must collect a wide variety of data, he or she cannot collect all possible data. The priorities of the evaluation effort, combined with practical constraints, essentially determine data selection (Nevo 1980).

The word *data* is sometimes taken to refer only to quantitative information or even only to the results of experimentation. However, the complex nature of teacher preparation programs demands that both quantitative and qualitative data be used to complement each other and produce a broad enough picture.

Most teacher preparation programs are not suitable for large-scale experimentation, although small areas are subject to empirical, quantitative analysis. Experimentation requires limiting and tightly controlling variables, whereas the task of teacher educators is "to manipulate as many variables as necessary to achieve multiple objectives which are often in conflict and of varying importance" (Ianni and Orr 1978, p. 90). As Cooper (1983) noted, the data and data analyses most useful for internal decision making are not necessarily those suitable for, or emanating from, empirical research. Compared to researchers, decision makers are less concerned about validity and reliability and more concerned about having data with direct implications for their own context.

Qualitative data—that is,

> *detailed descriptions* of situations, events, people, interactions, and observed behaviors; *direct quotations* from people about their experiences, attitudes, beliefs, and thoughts; and excerpts or entire passages from documents, correspondence, records, and case histories . . . data collected as open-ended narrative *without* attempting to fit program activities or peoples' experiences into predetermined, standardized categories (Patton 1980, p. 22)

—can yield a rich understanding of the actual process by which teachers are prepared, and are useful for generating theories (Reichardt and Cook 1979, p. 17). Quantitative data, on the other hand,

may support or contradict qualitative data and are useful for verifying theories. The two approaches serve as checks on each other. Contradictions between the data yielded by each approach often lead to valuable insights and closer examination of problematic situations. Quite simply, the evaluator practices "triangulation"—the use of multiple sources of data (including multiple observers) and multiple methods to zero in on the state of things, as the inherent biases in the differing sources and methods offset each other (Denzin 1978). Reichardt and Cook (1979) have noted that a combination of qualitative and quantitative methods is especially appropriate for evaluations serving multiple purposes.

One qualitative technique that can be illuminating but has rarely been used in an evaluation of a teacher preparation program is participant observation. With this approach the evaluator enters the program to whatever extent, for whatever length of time, and in whatever role best suits the evaluation's purposes and context. The evaluator observes what actually happens, participates in it, and uses guided observations and interviews to assess the actual process of the program (Denzin 1978).

Contrary to current practice in many teacher preparation programs, collecting outcome data does not in itself constitute program evaluation. For example, facts such as how many graduates of a teacher preparation program pass a competency test, how well they score as a group, how many are employed, how well they are rated by their supervisors, and how well their pupils achieve say nothing about the process of the teacher education program itself. Many critical unknowns remain. For example, what was the caliber of the students originally attracted to the program? What changes did the teacher education program produce in its students? What are the contexts within which graduates teach and the effects of those contexts on their teaching? And what are the caliber and types of pupils they teach?

Antecedents

An antecedent is "any condition existing prior to teaching and learning which may relate to outcomes" (Stake 1967, p. 338). Antecedents necessarily limit and shape what is done in a given program and therefore affect outcomes.

Antecedents for teacher preparation programs include, but are not necessarily limited to: characteristics of students, faculty, and physical and fiscal resources; institutional policies, governance, and limitations; the program's history, tradition, and geographic loca-

tion; and state mandates. Budget is an especially persistent delimiter of program scope and effectiveness.

Interactions

Interactions constitute the actual curriculum in action, that is, the interactions between students and faculty, students and field personnel, students and facilities, students and students, and students and knowledge. A curriculum is a dynamic process of events and experiences. Yet, evaluators of teacher education programs have generally focused on the paper curriculum—the courses listed in a catalog, lists of objectives, syllabi, and program guidesheets. They have taken the paper curriculum at face value and evaluated it from a narrow, quantitative perspective, which may be summarized in a question: "Is 'X' content covered somewhere?"

In recent years, devotion to systems analysis and behavioral objectives, with their emphasis on outcomes and, to a lesser extent, on inputs, has led some teacher educators to give less attention to actual educational processes. However, focusing only on goals and outcomes, one has no idea of the middle term (the process) and whether or how it affects outcomes. Moreover, discrepancies between the paper curriculum and the actual curriculum occur routinely. For example, curricula are strongly altered by personnel factors—changes in staff, part-timers, variations from term to term in staffing particular components, degree of faculty commitment to the official, intended curriculum, orientation of new faculty, and the degree to which implementation of the curriculum is monitored by the faculty. Deviations are to be expected and must be assessed in program evaluation.

Starkman et al. (1979) provided an example of a design for collecting evaluation data that appears sound, except that it focuses on student-related antecedents and outcomes to the exclusion of process. Without information on both process and outcomes, identifying areas of improvement is difficult.

> Where outcomes are evaluated without knowledge of implementation, the results seldom provide a direction for action because the decision maker lacks information about what produced the observed outcomes (or lack of outcomes). This is the "black box" approach to evaluation. (Patton 1980, p. 69)

Furthermore, programs may be found deficient and even eliminated on the basis of outcome data when in fact the intended program (the interactions that should have occurred) has never been adequately implemented.

As Galluzzo (1982) noted, gaining a description of the processes of a teacher education program and thereby an understanding of how

it actually works is in itself an important goal for any program evaluation. Similarly, Hall (1981) asserted that follow-up studies of graduates and studies that focus only on one component are not the goal of program evaluation. Teacher educators need a picture of the total continuum and the interrelationships of the parts of their programs. Toward this end, Hall recommended studies assessing the effects of basic program components.

Outcomes

Outcomes are those effects attributable to the program; those occurrences, whether intended or unintended and whether positive or negative, that manifestly result from the program. Outcomes are short- and long-range, cognitive and affective, individual and group. They can be assessed throughout the curriculum as well as at its end. Some types of outcome data will not be available to evaluators unless there has been a system for collecting them over time.

Recently, teacher educators have given considerable attention to assessing outcomes for graduates through various forms of competency assessment, scores on standardized achievement tests, scores on tests of basic skills and professional knowledge, follow-up studies, and studies of pupils' achievement. Weber and Cooper (1978) offered an example of a program evaluation based on a "goal attainment" perspective, in which outcomes are assessed in the light of intentions.

Teacher educators have encountered difficulty in specifying desirable outcomes for their graduates and, even when desirable outcomes have been specified, in assessing those outcomes. Although much more needs to be done, current efforts in design, instrumentation, and use of follow-up studies (e.g., Adams 1978; Arends 1978; Ayers 1978) represent commendable efforts to acquire an important source of data, heretofore almost universally missing, for program evaluation and program improvement. Such efforts can be invaluable research in themselves (Schalock 1979). Various types of outcome data that are collected include terminal assessments of graduates' competence, employment information about graduates, graduates' opinions of their preparation programs, administrators' ratings of graduates' performance, and, occasionally, observational and pupil-achievement data.

Often, "program evaluation" is not clearly distinguished from "follow-up and evaluation of graduates" (e.g., Middleton and Cohen 1979; Hord and Hall 1978; Hord, Savage, and Bethel 1982). Simply acquiring follow-up data does not constitute program evaluation. Rather, follow-up data must be integrated into the overall picture of

how these results came to be and their relation to the teacher education program itself (Gubser 1981). How a teacher education program produces its effects is as important as, and in some instances more important than, the typical finding that it produces teachers regarded as adequate or slightly better than adequate.

One common approach to follow-up is to send questionnaires eliciting the graduates' opinions of their preparation program. The results are taken at face value as a reliable evaluation of the program, which then should be the basis for program revision and improvement, usually by adding something (a course in classroom management, more field experience) to the curriculum. Gubser (1981) suggested that these questionnaires may tell teacher educators what "common wisdom tells graduates to *think* they acquired, or did not acquire. Surveys tell us more about peer knowledge and group methodology than they do about preparation programs completed by prospective educators" (p. 34).

The isolation of most follow-up studies from description and evaluation of the actual curriculum, which is the reality in which faculty are immersed, may account for the common report that faculty do not incorporate the results into program development (e.g., Sandefur 1982).

Raths (cited in Gubser 1981, p. 31) stated that program evaluation should also not be confused with only assessment of individual teaching skills or with assessment of the competence of individual graduates. Sandefur (1970, p. 12) recommended a broad approach to gathering follow-up data in four categories—career-line data; direct classroom observation; pupil, peer, and supervisory evaluations; and standardized measures.

Current thought in process/product research stresses evaluation based on pupil outcomes (e.g., Peck and Tucker 1973). This approach is theoretically and philosophically consonant with the teacher education syllogism presented in our first chapter. Unfortunately, the current state of the art of evaluation and research does not permit pupil outcomes as a practical basis for evaluating programs because we cannot yet tie pupil outcomes to specific program contents. Rather, product research can serve as a guiding perspective for evaluation of teacher education programs.

Contingencies and congruences

Contingencies and congruences are aspects of the context of a program. Contingencies are those external factors that impinge on programs, such as a hiring freeze that obliterates programmatic expectations for mandated content in a new area; congruence refers

to the degree of correspondence between the intended and the actual programs, such as a course intended to provide content in the social foundations of education that a faculty member orients toward curriculum theory.

Part of the evaluator's task is to assess to what extent the program achieves the expectations of the relevant groups (congruence) and whether the various components of the program should be changed to reflect changing conditions (contingencies) (Stufflebeam et al. 1971). In the examples just given, attainment of congruence would require that the program faculty either alter course expectations, or demand that expected course content in social foundations be, in fact, provided. To respond to the contingency situation imposed by the hiring freeze, faculty might refuse to provide the mandated content, appeal the freeze, retrain themselves in the needed area, or "borrow" instructors from related units.

Standards

Standards are those rules or guidelines against which the quality or value of the teacher education program is measured. We have modified Stake's original model, which showed standards as part of the judgment component. We prefer to think of standards as a screen through which data relative to the intended antecedents, interactions, and outcomes of a teacher education program are filtered to produce, eventually, judgments about parts of the program and the program overall.

One of the evaluator's most difficult tasks is selecting the evaluation standards, determining which groups' standards are relevant, and determining what weight particular standards should receive in judgments. A multiplicity of possible standards—too many for practical use—is normal, and so the evaluator must choose.

One category of standards includes those explicit, formal standards prepared by external groups such as NCATE, state departments of education, and professional and learned societies. In addition, institutions of higher education and departments within those institutions may have their own standards. These standards represent a group's consensus on what a program *should* be and, for practical purposes, what it *must* be either for continued existence or for professional recognition.

Formal external groups are one valid source of standards, but formal external standards alone do not suffice to evaluate fully all relevant aspects of a complex teacher preparation program. Often, external standards have been written broadly (vaguely, some would argue) to cover a wide range of acceptable variations. Thus, the eval-

uator on site must study the situation and apply more specific criteria from experience.

A second type of standards arises from the goal-attainment perspective (Provus 1971), in which programs are evaluated solely on whether they achieve the goals specified by the program owners. Certainly, the clarity of a program's goals and the degree to which they are achieved are relevant. However, goals themselves must be evaluated, and the process for attaining those goals studied.

A third type of standard is the identified needs of clients (Joint Committee 1981; Patton 1978) and the extent to which those needs are met. As mentioned previously, teacher educators serve multiple clients, including administrators, state personnel, the public, teachers, and students enrolled in the program.

Finally, there are informal or uncodified standards held by the various groups involved in or affected by teacher preparation—the teaching profession, the public, students and graduates of the programs, school systems and administrators, subgroups of the public (parents, taxpayers), judges, media, and others.

Drawing on standards from a variety of reference points, including past experience, helps the evaluator offset the relative lack of specific, generally accepted standards for teacher preparation programs.

Nevo (1983) pointed out that the evaluator does not always have a choice of specific standards because the program owners may want specific standards supplied. The evaluator is responsible, however, for seeing that the choice of standards has a sound justification.

Judgments

Judgments are statements of the quality or value or effectiveness of a program and its components. Judgment may be a threatening concept to evaluees, and often, emphasis is placed officially on providing information for making decisions (e.g., Cronbach 1963) or on improving a program (Cronbach et al. 1980; Stufflebeam 1982). Also, an emphasis on scientific method and on reporting only discreet, observable behaviors and events may cause evaluators to focus too strongly on description in the interest of objectivity, and thereby relinquish their right and responsibility to make judgments about program quality.

Judgments of merit, worth, quality, and feasibility are inherent in the evaluation process. Both decision making and program improvement rest on judgments about the present situation. As Stufflebeam (1982) noted, some programs will be judged unworthy of the effort required to improve them.

Depending on the purposes of the evaluation, judgments may

be expressed in absolute terms, such as "good," "adequate," or "poor," or in relative terms, such as "better than X program" or "needs improvement." Again depending on the purposes of the evaluation, evaluators may also provide judgments accompanied by recommendations for action.

Judgments about teacher education programs tend to be vague, bland, hackneyed, and self-evident. Typically, they call for simply adding something to the program (Katz et al. 1981). Conscientious evaluators must strive for judgments that are rigorous, specific, and meaningful to evaluation users.

V

THE MODEL IN ACTION

Let us now consider each of the cells of the matrix shown in Figure 1 in order to understand how the model actually works.

INTENTIONS—ANTECEDENTS

The power of antecedent conditions is easily overlooked. Program goals, arrived at through hours of discussion and research, may be viewed as the only structure that determines program content and results. In real life, however, there are always constraints that shape what can be achieved. Evaluations of teacher education programs must recognize limitations, because recommendations resulting from evaluation will either be implemented in the context of the existing antecedents or will require modification of those antecedents.

Evaluators must distinguish between stated intentions and actual practice. For example, institutions that claim to value equally the three areas of teaching, research, and service, but then reward faculty for achievements in only one or two of these areas, create an incongruence between antecedent conditions and program expectations. Regardless of the stated intentions of the program, antecedent conditions inexorably will control it.

Antecedent conditions that influence the intended curriculum of a teacher education program fall into three major categories: student characteristics, faculty characteristics, and support facilities and personnel.

Student characteristics

The largest number of students seeking entry into teacher education programs in the United States are enrolled in public institutions of higher education, many of which have policies of open enrollment. Thus, the opportunity for selective admission at the freshman level is often nil. Even colleges with selective admission face the problem of acquiring a data base predictive of an applicant's future performance as an educator.

In most institutions, formal admission to a teacher education program occurs in the first or second year of a student's undergraduate course work. Although actual screening for teacher preparation programs seldom occurs before entry into college, the professional programs can draw on information relating to previous general and subject-matter competence. Student self-reports, college-entrance tests, and aptitude/personality tests may provide pertinent information. Many entering students have completed college-entrance testing such as the American College Test (ACT) or the Scholastic Aptitude Test (SAT), which may identify academic strengths and weaknesses. The ACT Student Profile Report details self-reported needs, interests, plans, and goals and may serve as a predictor of academic strengths and weaknesses relative to the selected institution and program.

Since the 1960s, almost all undergraduate teacher preparation programs have used some system of admission review; according to Brubaker and Patton (1975), the median number of selective items in operation at any one institution is six, and the most frequently used item is college grades. Other items are or could be used. For example, Arnold et al. (1977) recommended trial adoption of batteries of tests that best fit program goals and philosophy. An analysis of multiple selection criteria in six states (Uno et al. 1981) indicated that smaller colleges and universities are more concerned than are larger ones with selection criteria and especially with personal evaluation procedures.

The pool of applicants available to any program is likely to possess certain characteristics in terms of ability, geographical origin, attitudes, and socioeconomic status. The original pool and how the teacher preparation program selects from that pool form a powerful antecedent condition.

A number of states have mandated testing programs prior to admission to teacher education programs. Where test results are used to screen applicants, the applicant pool available to program areas is modified according to the area of testing and the standards for screening. Directly or indirectly, the characteristics and abilities of

students in a program will influence the content, speed, and level of instruction.

Amodeo and Martin (1982) described a sophomore-level diagnostic screening process for teacher education students at New Mexico State University, with a prescreening (orientation) component, a basic skills component, and an assessment of teaching potential. Such a procedure strongly affects who enters a program and results in a useful data base for evaluation. As long as the selection system is actually enforced and the criteria on which the system is based are valid, the match or congruence between intentions and data is exact. If the nature of the applicant pool changes, the change can be detected. And, if change is seen as necessary, programs can be modified on the basis of screening results.

Example: Intentions—Antecedents (Students)

Sample of evaluator's questions for identifying program intentions and antecedent conditions regarding *students*.

- In the context of stated program goals, what characteristics should students in this program exhibit?
- Do institutional and program policies encourage students with these characteristics to apply to this program?
- Does the pool of candidates available to this program exhibit these characteristics?
- By what means does the institution/program screen out students lacking these characteristics?
- What are the constraints on the program's ability to attract and hold desired students?

Faculty characteristics

Clark (1961) suggested that observations of faculty should be oriented toward evaluating the kinds of outcomes and objectives for which the institution strives. In order to function effectively, faculty must know "whether the institution values superior teaching, scholarship, productivity in writing and research, dedication to the institution, a broad educational background, personal warmth, good personal habits, or a combination of these variables" (Arnold et al. 1977, p. 74). Lack of overlap between institutional goals (or what the institution rewards with recognition, salary, tenure, and promotion) and program intentions (which faculty members might describe in terms of student achievement and school-district interactions, for example) creates a potential for conflict at the antecedent phase, before the program is even implemented. If the reward system favors faculty who neglect teaching and service roles in order to publish, if it

makes no distinction between effective and ineffective teaching, or if it does not recognize faculty who stay productive and current in their fields, the quality of a program will suffer regardless of its stated goals.

Institutional policies and history determine the experience, attitudes, and educational level of faculty, as well as their willingness to allocate time to program needs. The scholarly qualities associated with outstanding teachers in higher education (degrees completed, areas of specialization, research published, papers given, and awards received) are more readily measured than are personal qualities (agreeable nature, stability, enthusiasm, integrity, and high cultural attainment), although students report being affected at least as much by these personal qualities as by the scholarly ones (Isaacson, McKeachie, and Milholland 1963).

Example: Intentions—Antecedents (Faculty)

Sample of evaluator's questions for identifying program intentions and antecedent conditions regarding *faculty*.

- What faculty characteristics does this institution traditionally reward with salary increases, promotion, recognition, and tenure?
- In the context of stated program goals, what characteristics should this program's faculty exhibit?
- What program demands will faculty be required to meet?
- What recruitment and hiring policies does the institution use to attract and retain faculty with the desired characteristics?
- How will faculty without desired characteristics be removed from involvement with this program or be given professional development opportunities?
- Is there a correspondence between what the institution wants from faculty and what the program wants?

Support facilities and personnel

NCATE's emphasis on resources and facilities for the campus-based components of programs (Standards 5 and G-5) underscores the need for "an environment which supports the basic teacher education program it offers" (*NCATE Standards* 1982, p. 25). Without sufficient funding and effective management, libraries, media centers, classrooms, resource rooms, and clinics cannot contribute to program needs and goals. The availability of such resources is critical; so are their use and maintenance. For example, a program goal might be to train students to use computers for classroom instructional needs, yet if the campus computer facilities are scheduled so that little free practice time is available, or if they are continually closed for repair, these antecedent conditions will prevent achievement of the pro-

gram's intentions. In similar ways, funding policies and allocation for resources provide antecedent intentions that affect program implementation. Included in campus-support areas are clerical and teaching assistance, data-management systems, communication systems, repair and maintenance systems, and governance systems.

A related set of antecedents at the level of intentions is the institution's willingness and ability to provide specialized resources. For example, if a program intends to train its students in audiovisual techniques, the institution must acquire sufficient equipment and place it where students can use it. A program to train prospective teachers in mainstreaming skills will require specific instructional materials for student use, faculty competent in providing the training, and some provision for related field or clinical experiences. In the same way, an early-childhood-education program that is designed to provide on-site training, but lacks on-campus, early-childhood laboratory facilities, must have alternative arrangements for use of local day-care, nursery, or kindergarten centers. Without such arrangements *in place*, the program will not attain its goals.

Institutional climate—the extent to which the institution's administration and faculty outside education recognize and value training for teachers—constitutes a powerful antecedent condition for all teacher education programs. As Denemark noted (1982),

> Two of the brightest spots on an otherwise gloomy contemporary horizon in teacher education are the recent statements of key administrators from prestigious universities supporting the importance of higher education's responsibilities for the improvement of elementary and secondary schools and the need for an effective school of education to carry out those responsibilities. (p. 90)

Denemark referred to Stanford University's President Donald Kennedy and University of California-Berkeley's Chancellor Ira M. Heyman, both of whom evinced support and respect for teacher preparation programs and schools along with recognition of some of the problems unique to education faculty. Most teacher educators, however, serve in institutional climates that downgrade teacher preparation. In such surroundings, education faculty may be inclined to imitate the style and interests of their arts and sciences colleagues, to the detriment of both teacher preparation and the public schools (Heyman, cited by Denemark 1982, p. 90).

Schools and clinics for field experiences provide additional antecedent conditions. The relationship between teacher preparation programs and public schools creates a context for future interactions. Stated and real intentions may diverge, depending on the perceived self-interests of both parties. For example, a school principal who has found that teacher preparation students have enhanced

classroom activities and are valued by teachers is likely to facilitate future field experiences. A school or district administration that perceives education faculty as accessible and effective providers of needed research and inservice is likely to cooperate in projects for mutual benefit. However, when principals, teachers, and district administrators view field experiences as annoying and irrelevant intrusions, access to schools is likely to be denied. In this case, the antecedents will limit the program's field capabilities regardless of what the program intends.

Intended antecedents also include the ways in which a program plans to capitalize on special resources or turn potential liabilities into assets. For example, a program in a rural area might specialize in preparing teachers to meet the needs of rural schools; or a program in a metropolitan area might plan to supplement its resources with those available in the community.

Example: Intentions—Antecedents (Support Facilities and Personnel)

Sample of evaluator's questions for identifying program intentions and antecedent conditions regarding *support facilities and personnel*.

- What facilities and equipment are required for achievement of program goals? What locations are most feasible?
- What are the repair and maintenance procedures?
- What scheduling of equipment is necessary to realize program goals?
- What is the history of institutional support for teacher education programs?
- What is the current status of the program within the institution?
- What is the history of relations between the program and local school systems or other field resources?
- What is the current status of the program within local school systems?
- What field sites are necessary for students in the program? What sites are planned for? Are these plans realistic?

Identifying all significant antecedents is not an easy job. As Smith (1980, p. 3) noted, "In the entangling network of federal, state, and local agencies and private and professional groups, the actual political and social forces shaping pedagogical education are no longer obvious." Yet these hidden forces have such power to control programs that they should be identified so far as is possible. Yet program evaluation tends to neglect this potent area, perhaps because of the confusion and politics involved.

At the intentions stage, the evaluator's job is to discriminate among the antecedents by separating the real from the paper intentions and to begin to discover the limits of what may be expected of the program. Sometimes, deliberate attempts to improve program

quality may create conflicts with antecedent conditions. A program's faculty might decide to limit admissions to students with ACT composite scores of 22 or above as a move toward quality control. Faculty members might be unaware that the pool of available students exhibits an average composite score of 18. If intentions were to be implemented, the program would then admit very few students. Awareness of such a discrepancy between intentions and antecedent conditions would permit consideration of alternatives: The pool of students might be altered through changes in recruitment, scholarships, and budgetary or funding policies. The intention might be changed to reflect reality, with implications for program content, faculty effort, and course expectations; or the admission criterion might be retained and enrollments deliberately curtailed, with implications for budget, staffing, and administrative support in view of the anticipated decrease in student credit hours.

INTENTIONS—INTERACTIONS

As distinguished from antecedents, interactions are the actual encounters that represent the dynamic element of education. Intended interactions are the curriculum as envisioned by the program planners—plans for course content, field and clinical experiences, instructional materials, readings, lectures, projects, research activities, assignments, and so forth.

Time is as critical to the intended interactions as is the nature of the interactions themselves, because time will influence the breadth and depth of the anticipated learning. The intended time allocation for various components of the program should match the complexity of the intended learning; otherwise the program will fall short of its goals.

Intended interactions should have an obvious relationship to intended outcomes. When program planners describe expected outcomes but fail to describe plans for interactions leading to those outcomes, the evaluator is likely to identify a need for information. For example, program planners might be requested to describe the intended interactions that are expected to produce an intended outcome. Such a description might even result in alterations of the program's intended outcomes through a more realistic assessment of curricular capabilities.

For example, if program planners intend to train teachers who can effectively teach handicapped pupils in regular classrooms, then the intended interactions (the curriculum) should reflect adequate learning time, appropriate coverage of content and skills, and

variables are present in curricular plans, neither planners nor evaluators have adequate means for predicting outcomes or for suggesting program modifications to alter possible outcomes.

An additional consideration at the level of intended interactions is retention. Retention policies, which determine the number and quality of admitted students who remain in the teacher preparation program, are important because "the teacher preparation institution must accept a very large portion of the responsibility for product characteristics upon releasing teachers as certified and employable" (Arnold 1977, p. 32). Measurements selected for retention decisions (grades, grade-point averages, observations, test results, interviews, field monitoring, module completions, etc.) should match admission policies and program goals. For example, if basic skills are never assessed before or during a program but are assessed in an exit examination for graduation or certification, then the program's policies do not match its goals.

The evaluator's task at this point is to identify interactions intended by the program planners, to note where modifications might be in order, and to begin to delineate the limits that both antecedents and interactions will impose on the intended outcomes.

Example: Intentions—Interactions

Sample of evaluator's questions for identifying *intended interactions*.

- What experiences are planned for students in course content, skill acquisition, and clinical or field experiences? How does each of these relate to program goals? How will they be assessed?
- What materials and teaching strategies will be used? Do these relate to program goals?
- What projects will the students undertake? Do these reflect program goals? How will they be evaluated?
- Do time allocations for course topics and requirements match the degree of complexity of these topics and requirements?
- What retention policies will assure that suitable students remain in the program? What implementation procedures will show that the policies exist in practice as well as on paper?
- How will unsuitable students be identified and moved out of the program? How will this process be assessed and made evident?
- What is the process by which students will inform faculty of their curricular needs and problems? What documentation will confirm the extent of this process?
- By what process will faculty evaluate students and inform them of their progress? How will this process be documented?

- Is there a mechanism by which students may evaluate faculty? Where will these evaluations be on file, who will collect them, and who will have access to them?
- How will evaluation results be used? How will this usage be confirmed by later observers and evaluators?

INTENTIONS—OUTCOMES

Outcomes are the consequences of educating. Intended outcomes consist of those competencies—knowledge, skills, abilities, attitudes, or aspirations—that the program planners intend to inculcate in trainees between entry into the program and some point after graduation. An orientation toward "product" evaluation may lead to the assumption that assessment of outcomes should occur only at graduation, certification, or during the initial years of teaching. Stake's (1967, p. 339) perception was that evaluative efforts have usually concentrated on such "distant outcomes." However, outcomes relevant to program goals also occur during the program. Formative evaluation of students' acquisition of increasingly complex skills, for example, is necessary both for monitoring their progress through the program and for continuing program revision. The evaluator must identify these intended, earlier outcomes in order to determine whether they align with program goals. Expected outcomes at pregraduation stages should support program intentions and provide some assurance that the program will train competent first-year teachers. Producing teachers who perform adequately during their early years in the profession may be as much as can be required of a traditional four-year program (McDonald 1976b; Denemark and Nelli 1981; see also Denemark and Nutter 1980). How the program faculty have planned to achieve specific outcomes will be of particular interest to the evaluator.

There are intended outcomes other than anticipated impact of instruction on students. An equally important but usually neglected one is the expected impact on faculty. For example, a particular staffing pattern might be intended to increase communication across lines of specialization or field; supervision might be intended to increase faculty's opportunities to identify research topics or offer inservice training. Other intended outcomes might be expected costs in terms of time, personnel, and funds; anticipated wear on physical resources; or possible effects on schools—any impact that the program might be expected to have on its referent groups.

At this point, the evaluator has assessed how deliberately and effectively the program owners have planned the program and how consistent and realistic their plans are.

Example: Intentions—Outcomes

Sample of evaluator's questions for identifying *intended outcomes*.

- How are students expected to be different after they have completed this program as compared to their entry characteristics/skills? How will such differences be known?
- How will this program affect faculty characteristics/skills/professional development? How will these effects be judged, and by whom?
- What will this program cost in terms of staffing? facilities? time and priority allocations? research and service functions of the institution? How will these costs be measured?
- What are the expected benefits of this program in terms of public opinion? reactions of teachers, administrators, and other school service personnel. How will these reactions be known?
- Where will the graduates of this program be employed and by whom?

DATA—ANTECEDENTS

As Stake (1967, p. 341) noted, the evaluator has two tasks to perform at the data-collection stage. Because examination of all available data is impossible, the first task is selection of data for examination as evidence. In selecting some data and excluding other data, the evaluator has three guidelines: the rationale for the program, the purposes of the evaluation, and past evaluative experiences. The evaluator's second task is to fit the selected data into a logical framework: first, to identify actual conditions that need modification and can be modified, and second, to assess whether intentions are fulfilled.

At the data-antecedents level, the evaluator's task—and sometimes it is a difficult task—is to determine whether the program is adequate in terms of students, faculty, and resources and, if not adequate, exactly where it is inadequate.

Students

Data available to the evaluator should describe students' characteristics as related to program intentions. Galluzzo (1982) maintained that institutional data collection should begin with students' entrance into the program and should continue through the follow-up phase. Yet Howey (Howey and Gardner 1983) noted that only 28 percent of institutions in a preservice study indicated that they made a formal preassessment of students entering a teacher education program. Because the public has perceived teachers and teacher education students as weak, legislators in more than half the states have man-

dated basic skills tests as a prerequisite for entry into teacher education (Sandefur 1981). Program intentions may well specify particular student traits; yet if those traits are not systematically assessed among applicants to the program, then program planners have not provided basic conditions for achieving the program's goals.

Data on students' characteristics will be provided by student records, tests, high school and college grades, success in prerequisite courses, interview results, standardized test scores, and other available information. The evaluator determines whether the students admitted to a program match the program's intended student body and whether the stated admission and retention policies are operative and result in the desired student characteristics. Lack of congruence is indicated either by the exclusion of students who appear to have desirable characteristics or by the admission of students with characteristics inconsistent with the program's goals. In the process of tracking congruence among program elements, the evaluator may uncover inadequate mechanisms for implementing intended policies. For example, an admission system that relies on individual faculty to identify students in their classes who have not been screened for eligibility will not work if a number of faculty forget to do so.

A system that makes many exceptions or provisional admissions will thwart the program planners' original intentions. Data relating to the processes for screening and admission, student performance, adherence to prerequisites, testing programs, and any other control points where student characteristics are pertinent to program goals will be reviewed by the evaluator. A discrepancy between evidence and intentions could indicate a discrepancy between real and stated intentions, problems in the admission and retention system, or problems in the system for data collection. The evaluator reports any lack of congruence and attempts to determine the causes.

Example: Data—Antecedents (Students)

Sample of evaluator's questions for identifying data on antecedents pertaining to *students*.

- What quantitative data (ACT or SAT scores, high school and college grades, institutional tests, etc.) describe student characteristics?
- What qualitative data (interview reports or videotapes, letters of recommendation, biographical information, etc.) describe student characteristics?
- Do these data describe the characteristics specified by program goals?
- Does the program attract the students envisioned by the planners?
- Which students have been screened out and at what points in the program? By what means?

- What are the limits to the program's ability to attract and retain the desired students?
- If there is conflicting evidence, where are the discrepancies?

Faculty

Evidence on antecedents pertaining to faculty includes faculty vitae; teaching evaluations given by students and peers; evidence of involvement in professional organizations and activities; and interviews with faculty, administrators, students, and graduates. Depending on program intentions and the purpose of the evaluation, the evaluator may decide to investigate the communication skills of faculty, as evidenced in publications, presentations, syllabi, lectures, and interviews. For example, faculty ability to link research to teacher education programs and to convey this linkage to students may be assessed through syllabi, interviews, and class observations. Relevant data may include faculty workload, policies for recruiting and hiring, internal governance, and opportunities for professional development. The evaluator determines whether the program faculty exhibit the professional background and pedagogical skills required by program goals.

Example: Data—Antecedents (Faculty)

Sample of evaluator's questions for identifying data on antecedents pertaining to *faculty*.

- What are the actual conditions of faculty employment and workload? How do these compare with policies stated in catalogs and handbooks?
- What data describe the characteristics of faculty in this program?
- Do current faculty exhibit those characteristics described in the program's intentions?
- Is there evidence that faculty who lacked desired characteristics were removed from the program or were provided with appropriate professional development opportunities?
- What faculty have recently been added to the program? Who has recently left? What program gaps have been filled in, and what gaps have been created?
- Do faculty perceive a conflict between program needs and institutional goals?
- Do faculty indicate an awareness of student needs, goals, and progress?
- How do faculty intend to use program evaluation data?

Facilities

The evaluator will examine evidence indicating whether facilities (space, accessibility, equipment, maintenance, and staffing) provide the support needed by the program. Although existence and acces-

sibility of resources are important, the evaluator will also look at extent of use, budgeted support, and planned resource allocations. Program evaluations focusing solely on outcomes are likely to neglect such antecedents, even though they are a critical factor in the ability of a program to implement the intended curriculum.

For example, an essential antecedent for training prospective teachers to use computers in instruction would be the availability of the necessary hardware and software. The evaluator will determine whether these materials are available, accessible, and operational. Questioning to elicit evidence of planned support for programs is intensive, focused (some might say picky), and quite possibly perceived as somewhat threatening by faculty and staff: Show the posted laboratory hours for the computer room. What assistance is available for students during these lab hours? Which faculty with expertise in computer usage train the students? What time outside the hours of instruction do faculty have for helping students? Show the budget allocations that support equipment purchase, maintenance, and repair; electrical expenses; insurance; software purchases; and other costs in operating a computer lab. What security system will curtail theft and vandalism and permit the lab to be used at night and on weekends? What hours of operation are most convenient for the program's prospective students? What is the cataloging system? How is software usage recorded?

Lack of congruence between program goals and existing facilities indicates either that evidence is incomplete or that the program intentions are not appropriately supported. The evaluator's task is to note the discrepancies and the need either for revision of program goals or for modification of the factors limiting the attainment of program goals. The evaluator's function is not to make decisions about modifications or revisions (although recommendations are usually in order) but rather to point out the fact and the causes of incongruence.

Example: Data—Antecedents (Support Facilities and Personnel)

Sample of evaluator's questions for identifying data on antecedents pertaining to *support facilities and personnel.*

- Is the necessary equipment for the program available? accessible? operational?
- Is the required staff in place? trained? capable?
- Are needed support and maintenance budgeted for?
- What is the funding status of the program?
- What support for the program is provided by the local school system?

- Are the available field sites appropriate for program needs? How is this appropriateness determined, and by whom?

DATA—INTERACTIONS

Observations of interactions should produce data illustrative of two distinct areas of interest to program faculty and to the evaluator: intended occurrences and unintended occurrences. Intended occurrences are documented through inventories, questionnaires, interviews, reports, course descriptions, syllabi, and actual observations of classroom and field situations. In selecting evidence to be considered, the evaluator must avoid assuming that the only interactions to be observed are the formal, planned activities as outlined by a syllabus. As Patton (1980, p. 147) noted, often "a major part of a program's impact may take place on the periphery of structured activity." A number of factors may cause the curriculum not to be implemented as it was intended, for better or for worse. The dynamics of the classroom situation; students' reactions to readings, activities, and discussions; and extracurricular activities may well affect the program. Variations in course staffing and sequence, quality of instruction, instructors' contact with students outside the classroom, and interaction with field sites can all increase or reduce curricular impact. Travel time to field sites may significantly reduce students' field contacts; a gifted instructor may increase students' motivation. Part-time instructors may not understand how a particular course relates to the total program and so may downplay some critical curriculum components.

A valuable source of data on unintended occurrences is classroom observation. Documentation of such observations might include descriptions of the dynamics of classroom experiences, the duration of specific activities, the frequency of particular teaching strategies, the sequence of content and skills practiced, the nature of students' participation, and analysis of the levels of skill and knowledge acquired by different students.

Unintended occurrences may also be identified through student and faculty feedback. Data that are typically missing from program evaluations are student and faculty perceptions of what is really happening and how valuable these perceived happenings are. While faculty have input into a program and can plan changes based on personal observations, student evaluations, with some notable exceptions (see Sorenson et al. 1977), seem to be used solely for assessment of instructors. However, students' perceptions of their program have direct bearing on what role they assume in the pro-

gram and, eventually, their status as graduates of the program. For example, students who are unaware of the reasons for particular assignments or experiences are likely not to value them. Modifications, in this case, would consist of clearer communication of programs and strategies.

Reliable student feedback, positive and negative, is critical to program evaluation. Persistent negative responses from students about any program component indicate a need to reassess that component. Persistent positive responses may suggest strategies or activities that would enhance other program areas.

Data from program graduates and their supervisors, principals, and colleagues are also extremely valuable. Because these clients base their perceptions on the actual performance of program graduates, their responses provide critical data for program review and revision. The evaluation should ensure that program owners know what significant groups of clients think about their program, and the program should be amenable to modifications based on that feedback.

Data on graduates' performance must be interpreted in the context of local factors beyond the control of the preparation program. Teachers are vulnerable t pressures to display site-specific behavior patterns not necessarily in conformity with the content of their training (McLaughlin and Marsh 1978; Squires, Huitt, and Segars 1983; Smith 1980). For example, a program that trains future teachers to use a language-experience approach in reading and writing might conflict with school systems that restrict teachers to using manuals and standard textbooks. On-site assessments of these teachers would reveal little of their language-experience training, and an inexperienced or uninformed observer might judge the program to be ineffective. In a case such as this, the evaluator will point out the incongruence between the program's goals and the school district's expectations. The evaluator might also recommend to the program faculty that if the language-experience training is to continue to be a primary focus of the program, then the skills of graduates would be more appropriately evaluated in other contexts.

Scriven (1972) recognized that stated goals may mask unintended interactions and advocated that evaluators not consider official goals as a starting point. Rather, he suggested, evaluators should focus on actual occurrences and effects and use these to formulate reality-based program goals that can then be compared to official goals. This comparison of evaluation-deduced goals with stated program goals would immediately highlight areas of incongruence. Scriven's strategy has the disadvantage of leaving the evaluator with no guidelines for selecting the data to be used in making judgments.

However, experienced evaluators are aware of the tunnel vision that results from focusing only on official goals.

The observed interactions in a teacher preparation curriculum are likely to be less extensive than the specified intended outcomes would suggest This common discrepancy derives from the fact that teacher educators typically set goals that, while accurately reflecting the knowledge and skills beginning teachers need, far exceed what is possible to do well in the time permitted under existing course and credit constraints (Denemark and Nutter 1980). Therefore, the evaluator must expect some discrepancy between intended interactions and observed interactions. It is unlikely that all program intentions can or will be realized. The evaluator will focus on the extent, direction, and impact of expected discrepancies, rather than on the fact that discrepancies exist.

Another neglected area is that of attrition data (Nutter 1983). The evaluator should ask how many students leave the program and why they leave. There are always social, personal, and economic reasons for leaving school. There may also be reasons relating to program content, course sequence, or faculty expectations or characteristics. The evaluator's task is to bring these factors to light. If such data do not exist, the evaluator must determine whether the lack derives from high retention rates or failure to collect information.

Where data on interactions conflict with intentions, the evaluator must note the discrepancy. A teacher preparation program that intends that all students will master the basic skills of classroom management presumably will provide for the development of these skills within the planned curriculum. However, if the data on interactions show that students receive little instruction other than commonsense admonitions, no classroom observations focused on management skills, and no opportunity to practice these skills before student teaching, then intentions and interactions are incongruent. The evaluator would note the discrepancy and suggest possible causes.

As Stake (1967) noted, people differ in what they value in a training program. Some will discount the importance of congruence between intentions and interactions; others will consider it to be critical. Students, administrators, faculty, and the public may well have different perceptions of the importance of a specific discrepancy. The evaluator's statements, while reflecting some degree of personal judgment, should be grounded in an understanding of program goals and the purpose of the evaluation, for these provide the evaluation parameters.

Example: Data—Interactions

Sample of evaluator's questions for identifying data on *interactions*.

- What are the principal intended interactions? How is their occurrence documented, and by whom?
- What unintended interactions occur persistently? How is their occurrence evidenced?
- What do faculty say about the benefits or drawbacks of the coursework in this program? How do they make their perceptions known?
- What do current students say about their experiences in the program? When do they communicate their reactions, and to whom? What effect do these reactions have on course content?
- What do program graduates and other school-based professionals say about what is taught in this program and/or how it is taught? When do they communicate their reactions and to whom? How are these reactions reflected in program interactions and outcomes?
- Are there discrepancies between the content of the program and expectations for its graduates? What are they, who documents them, and what has been done to resolve them?

DATA—OUTCOMES

The definition of *outcome* is critical. To many, the only "outcome" is at the point of graduation and during initial teaching. Most program evaluation has concentrated on this view of the outcome level. If, however, as Arnold et al. (1977) suggested, selected, sequential, quality-control points are seen both as outcomes of preceding quality-control points and as entry requirements for succeeding points, then there is a variety of outcomes for which data should be sought (Medley 1982; Roth 1982). Eight "key quality control points" are evident in teacher preparation:

1. College admission
2. Admission to the teacher education program
3. Student teaching and other professional field experiences
4. Completion of preservice preparation (graduation) and institutional recommendation for certification
5. State agency certification
6. Employment (initial year or years)
7. Retention and tenure decisions and inservice education
8. Continuing professional development (Arnold et al. 1977, p. 7)

Whether considered to be integral portions of programs or separate levels, the first four points are unquestionably the responsibility of teacher preparation programs. Of these, student teaching

is the culmination of the program and traditionally has been judged by students as the most potent part of the program (Haberman 1983). Student teaching has been the subject of numerous investigations (e.g., Canadian Teacher's Federation 1977; Cortis and Grayson 1977; Dickson and Wiersma 1980). Evaluative data from student teaching have two benefits for the training institution. First, students are assessed at their optimal level of pregraduation knowledge and performance skills, and so results are more directly attributable to the program. Second, student teachers are accessible; data can be collected far more easily before graduation than afterwards.

Data from teacher-effectiveness research (e.g., McDonald 1976a, 1976b; McDonald and Elias 1976), school-effectiveness studies (e.g., McLaughlin and Marsh 1978; Squires, Huitt, and Segars 1983), and pupil-achievement research (e.g., Berliner 1976; Evertson, Anderson, and Brophy 1978) can and should influence teacher education programs. There are, however, reasonable limits to the impact of such results for an individual program on evaluation.

Patterns of strengths and weaknesses demonstrated over time by graduates from a particular program may indeed point to program strengths and weaknesses (in admission, training, graduation, or evaluation practices) for which the program must be held accountable. However, the evaluator must interpret such data judiciously in light of the contexts in which graduates work. Teacher preparation has no control over policies and procedures operating in most school systems. Peer pressures, administrative expectations, recognition, rewards and punishments, parental influences, and community input all have an impact on teachers, and, singly or in combination, alter teacher behaviors (McLaughlin and Marsh 1978). A preparing institution should not be held solely accountable for behaviors that are the result of postgraduate pressures and expectations.

Systems for follow-up and evaluation of graduates are crucial for program improvement. There are many follow-up models available (e.g., Sorenson et al. 1977; Oana et al. 1975; Adams 1978). It seems clear that multiple measures of graduates' performance are more effective and useful than are single measures (see Sandefur 1982; Savage 1981; Yeany 1980). At the outcome phase, the evaluator's selection of data is again critical; and, again, selection will be based on the evaluation's purpose and the program's rationale. The evaluator may supplement questionnaire data with on-site observations and interviews with selected graduates, colleagues, and employers of graduates to provide a stronger base for evaluation.

Example: Data—Outcomes

Sample of evaluator's questions for identifying data on *outcomes*.

- What data are available on program graduates? Who collects these data? Who receives the information? Does this information affect program content? How are effects documented?
- What students leave this program? Why do they leave? What documentation is there of student-attrition rates and causes?
- What knowledge and skills does this program develop in students by the point of graduation? How are these evidenced? How are results fed back into the program?
- How do principals, teachers, and other professionals evaluate the total program? How are these data collected? What evidence is there that they have an impact on the program?
- Are other data available concerning graduates of the program (standardized tests, competency tests, etc.)? How do the results of these tests support program intentions?

STANDARDS

At the intentions and data levels, the evaluator focused on the characteristics of the students, the faculty, the curriculum, and the supporting facilities. At the standards level, the focus is on whether the real status of the program meets conditions required by the standards.

In relating written standards to on-site evaluations, the evaluative process becomes a determination of priorities (see Figure 2) in which there are four consecutive levels: selection of standards, application of standards, judgments about the program, and dissemination of the judgments. The first two levels, selection and application, are part of the standards process. The last two will be discussed under *Judgments*.

Selection

Everyone has standards to apply to teacher preparation programs. An aroused public, or concerned groups within the public, may demand that absolute and very specific standards be mandated for teachers and for teacher preparation. More directly and continuously related to teacher training are the national, state, and regional agencies and professional organizations that have assumed responsibility for monitoring those programs and enforcing or urging adherence to guidelines. Additional strictures are presented by federal, state, or other regulations that set conditions for funding. Finally, adminis-

trative regulations within colleges and universities set goals and limits for all institutional programs.

For any given program, the referent groups directly involved may devise standards relative to the specific setting and area of training. These relative standards may be more familiar to faculty and students in a program than are the absolute standards on which accreditation, funding, or public opinion are based.

In practice, the distinction between relative and absolute standards is likely to blur. Many program planners routinely consider absolute standards (such as state regulations and the program guidelines of professional organizations) when they modify and update programs for in-house purposes. A blend of absolute and relative standards is exemplified in the field-based Chicago State University evaluation model described by Dillon and Starkman (1981). This model was created both to meet NCATE and state accreditation requirements and to provide in-house data on program effectiveness.

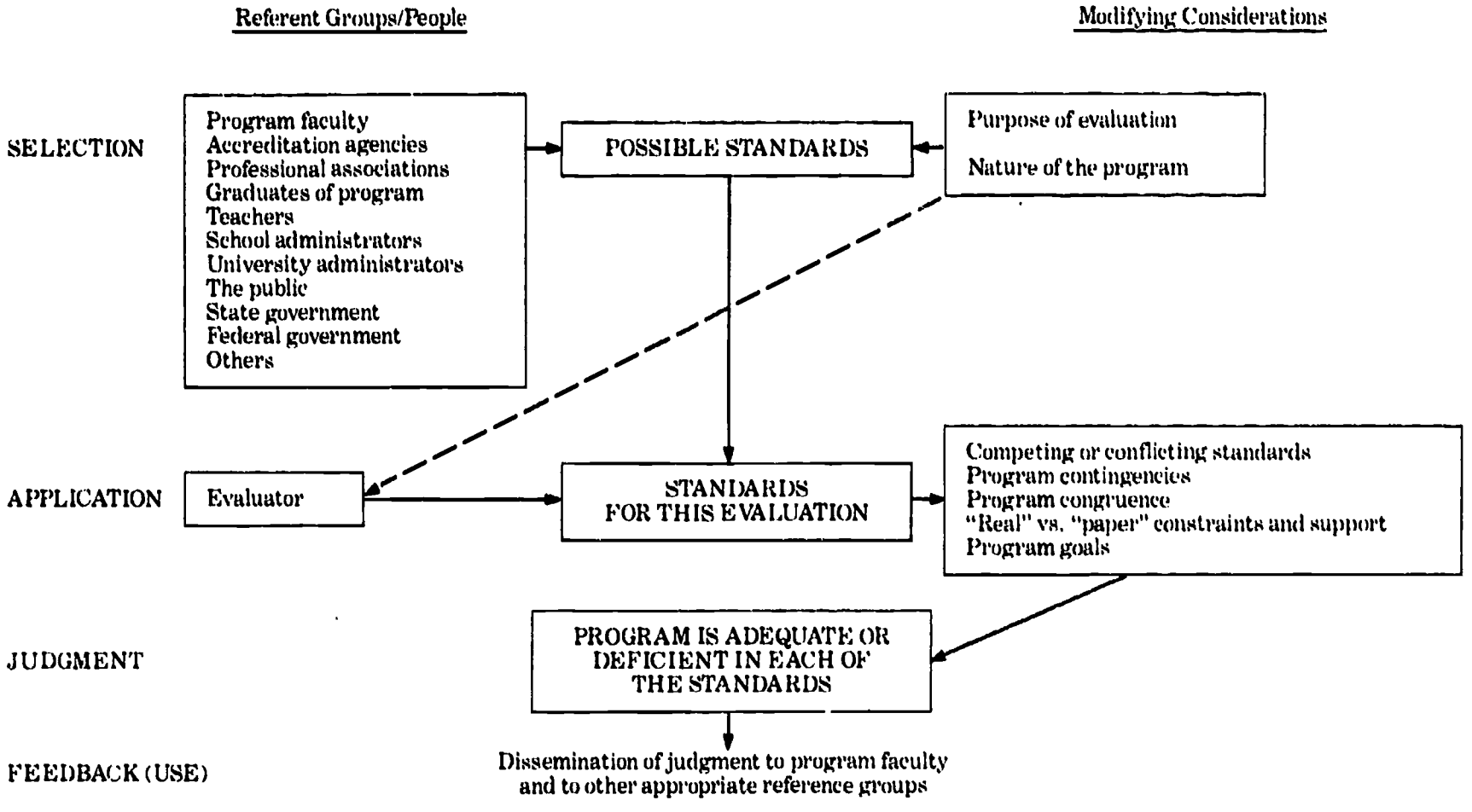
Stake's (1967, p. 344) model for assessment of a program distinguished between relative and absolute comparisons. For program improvement based on formative evaluation, Stake's model used descriptive data from other programs to provide relative comparisons. Formal standards from professional groups and agencies were used for absolute comparisons of programs in a summative evaluation.

Application

Applying the selected standards is a comprehensive process, first, of examining the antecedents, interactions, and outcomes as evidenced by the selected data; second, of fitting these variables into a logical framework; and third, of putting this framework in the context of the standards. Implementation of the standards requires consideration of evidence in multiple areas: curricula, students, faculty, funding sources, planning effectiveness, facilities, community support, cost effectiveness, program goals, field placements, outcomes, organizational efficiency, program autonomy, and any other components deemed important by the initiators of the evaluation. Some of these variables will indicate quality levels for which a program is held accountable, and some will represent goals toward which the program is oriented.

At the point of application, most data relating to antecedents, interactions, and outcomes will be in place, ready for the process of review. The actual standards to be used have been determined, and questions relating to their implementation deal with the extent to which specific standards should be applied. It may be that some

Figure 2: Levels of the Standards and Judgments Stages



standards should be emphasized over others, depending on the purpose of the evaluation and the results of previous evaluations. Where deficiencies have been noted in the past, current evaluation efforts may well focus on the extent of improvement in key areas.

One immediate consideration will be the nature of the data that have been collected. If data are restricted or contradictory, then the evaluator may wish to inquire further about reliability and validity. Meeting a standard must be more than juggling data in order to claim paper compliance.

The evaluator will also want to know how aware program owners are of particular standards and what steps they have taken to meet them. Faculty and administrators can often use accepted standards as leverage to obtain program support; have they done so? For example, administrators aware of state regulations for library facilities could, in the months preceding an evaluation, use administrative channels to predict adverse evaluation of existing support for the library. A central administration anxious to avoid the appearance of short-changing future teachers may well allocate additional funds. Similiarly, faculty slow to review curricula or develop follow-up procedures may take action under the pressures of having to meet standards for an imminent evaluation. Attention to standards and thoughtful responsiveness is one indication of administrative planning effectiveness.

Characteristics of students, faculty; and facilities and support personnel have been noted as critical in any evaluation of antecedents, interactions, and outcomes. All evaluation standards dealing with program effectiveness will refer to students; most will recognize the importance of faculty, and many will refer to support for programs.

Student characteristics

The most obvious antecedent, admission requirements, could be program-specific, institution-mandated, required by the state, written into professional guidelines, or a combination of these. The evaluator focuses on whether the program uses appropriate information to admit students who are most likely to benefit from the program and become competent beginning teachers.

Standards for student interactions relate to required coursework, sequencing of experiences, duration of activities, feedback on performance, and student perceptions of the importance and effectiveness of what they are doing. The evaluator will be interested in the categories of costs that have an impact on the quality of interactions (Thompson et al. 1981). How local school districts assess the

program, and by what standards, will also fall within the purview of the evaluator.

Standards for student outcomes exist in the form of graduation criteria for knowledge and performance skills; criteria for evaluation by peers, instructors, school administrators, and the public; district hiring policies; employment statistics; and state regulations for initial and emergency certification.

Example: Standards (Students)

Sample of evaluator's questions for clarifying the fit between standards and program realities concerning *students*.

- Does the program appear to be collecting and using appropriate data to enforce admission and retention criteria? Are program criteria and efforts consistent with standards relating to student characteristics?
- Are the data sufficient to indicate whether the program meets curriculum standards for students?
- What data show the quality of graduating students? Do these data show whether exit standards have been met?
- Were weaknesses or deficiencies relating to the student body identified prior to this evaluation? If so, have these been addressed in such a way as to meet the appropriate standards?

Faculty characteristics

Standards relating to faculty qualifications and abilities vary in emphasis on the teaching, service, and research efforts of instructors. A school district might have a standard for faculty's service involvement that conflicts with an institutional standard for publication. For a professional organization, program quality might be evidenced by presentations of research papers at conferences; but for prospective students, by awards for superior teaching.

Documentation of faculty quality can be provided through student evaluations, peer reports, observations of teaching, service and inservice records, affiliations and activities with professional groups, committee activities, publication, papers presented, funded research, number of citations by other scholars, and other evidence important to the initiators of the evaluation. The evaluator must examine these data for reliability, currency, and adequacy as evidence of meeting the selected standards.

Example: Standards (Faculty)

Sample of evaluator's questions for clarifying the fit between standards and program realities concerning *faculty*.

- Is the pool of data on faculty sufficiently current, reliable, and comprehensive to permit standards to be applied?

- What data have been collected as evidence of continuing faculty ability and effectiveness? Are these data sufficient for showing whether standards have been met?
- What evidence shows faculty involvement in planning, implementing, and evaluating programs? Is the evidence adequate for showing whether standards are met?
- Were weaknesses or deficiencies relating to faculty identified prior to this evaluation? If so, have these been addressed in such a way as to meet the appropriate standards?

Facilities and support personnel

Standards relating to funding formulas are of critical importance. They provide not only goals for effective operation but also impetus for improvement. The same is true of standards relating to the amount, allocation, and number of support personnel. Although a program faculty and administration can determine critical funding parameters by reviewing relevant literature and consulting with experts (Yeaton and Redner 1981), the possibility of having a program judged deficient may have greater impact on reluctant budget offices. If funding is a primary focus for the evaluation, the evaluator might request additional information in terms of direct and indirect institutional standards (Thompson et al. 1981). The evaluator is responsible both for noting incomplete, outdated, or biased data that prevent the application of standards and for requesting additional data as needed for judgment.

Example: Standards (Facilities and Support Personnel)

Sample of evaluator's questions for clarifying the fit between standards and program realities concerning *facilities and support personnel*.

- Are the available data on facilities, services, and support personnel sufficiently current and reliable to permit application of standards?
- Are the data on funding formulas (per student, per credit hour, per type of instruction, per level of student) sufficient to permit application of appropriate standards?
- What data have been collected on support for program needs in materials, facilities, services, and support personnel? Are these adequate for showing whether standards have been met?
- Were weaknesses or deficiencies relating to facilities, services, or personnel identified prior to this evaluation? If so, have these been addressed in such a way as to meet the appropriate standards?

JUDGMENTS

In a sense, many segments of the public have already judged teacher preparation and the teaching profession and found them deficient. It is common to read or hear remarks such as those made by William J. Bennett, chairman of the National Endowment for the Humanities, who, in a speech to the American Legislative Exchange Council ("Humanities Chief . . ." 1988, p. 1), charged that "people who have an education degree may teach history, but people who have a history degree or deep knowledge of history may not teach it." Apparently, ignorance about teacher preparation is no deterrent to criticizing it.

Critics of teacher education are often unaware of the antecedent conditions that limit and direct teacher preparation programs and of the variety of data that can be used as measures of program effectiveness. Often, they resist learning anything that runs counter to their prejudices. Legislative committees that have not sought input from teacher educators recommend legislation designed to have major and lasting effects on teacher preparation programs. The same committees often neglect to recommend the funding required to implement changes, and the resulting legislation may actually weaken program effectiveness.

Teacher educators need to create a new standard for themselves, one that would hold them accountable for initiating and maintaining information systems that reach extensively into public and professional sectors.

At the same time, it must be noted that judgments of program inadequacy based on antecedent conditions beyond the control of teacher preparation units are the most palatable to program faculty and administrators. A deficiency traced to a source outside the preparation program puts less pressure on faculty to act and encourages the luxury of complaint without the burden of initiative. Far less palatable are judgments of inadequacies that stem from what program owners have or have not done. Because of the current stress on accountability, teacher preparation programs are especially vulnerable to judgments about systems for collecting and organizing data to document program effectiveness.

Judgments about the program

To arrive at this stage, the evaluator has determined that the information about the program is sufficient and has compared this information to the appropriate standards. Judgments consist of the

evaluator's perception of the extent to which antecedents, interactions, and outcomes match the relevant standards.

Judgments can be provided in brief statements such as "adequate" or "inadequate," or elaborated to specify areas of deficiency, adequacy, and strength. In times of economic uncertainty, judgments relating to program effectiveness may have a particularly powerful impact, since they provide documentation for decisions about priorities and funding. Such decisions can result in maintaining or eliminating a program.

The evaluator may be charged with supplying recommendations for program improvement or may elect to do so. Such recommendations must outline steps by which program weaknesses might be remedied, alternatives for program improvement, or suggestions for maintaining exemplary levels of achievement.

Example: Judgments

Sample of evaluator's questions to arrive at *judgments*.

- How closely do the program's antecedents, interactions, and outcomes match the appropriate standards?
- Are the program data consistent with the standards for curriculum interactions?
- Do intended-unintended outcomes strengthen or weaken the effectiveness of the program?
- Which standards are inadequately met in the program and why? What appear to be sources of deficiencies?
- Which standards are met adequately, and how could they be met more strongly?
- Which standards are met in an exemplary way, and what are the sources of these strengths?

Dissemination of judgments

The evaluation process is a useless exercise unless the results are communicated to appropriate groups. It is difficult to visualize an evaluation process that omits program faculty from among those receiving the results because program modifications based on evaluation are an ongoing professional obligation. There will often be other groups with an interest in or need for the evaluator's judgments about the program: administrators with budgeting priorities to set; school districts with hiring decisions to make; accrediting agencies; and others. No group, however, has more intense interest in, or greater need for, the results than do the faculty and administrators responsible for the program.

The way results are disseminated will depend on requirements specified by the initiators of the evaluation process. Some evalua-

tions require extensive reporting; others require less. It is the evaluator's responsibility to provide judgments in whatever format is required. Ideally, evaluation results will be reported in such a way as to be useful for all interested groups. The process itself, if carried out with integrity and intelligence, leads not only to an improved program but also to increased understanding of the achievements of teacher educators.

THE MODEL APPLIED

The following examples demonstrate how the model might be applied in actual evaluations.

Example 1

GOAL: Provide a high-quality school-media program that will train students in media/technology for use in schools.

	ANTECEDENTS	INTERACTIONS	OUTCOMES
Intentions	There will be sufficient media facilities for quality media/technology training.	Quality clinical experience will be provided in courses and lab hours.	Graduates of the program will be competent to plan instruction using media and to operate all audio-visual equipment found in typical public schools.
Data	Facilities are available. Schedules are appropriate. Equipment is old; and, because of expense, maintenance contracts have been allowed to expire. (Inspection of facilities, inventories, budgets; interviews with staff and faculty)	Students sign up for a-v courses, attend classes, and sign up for lab hours. However, equipment continually is inoperable because of maintenance problems. (Observations, interviews with students)	Students are deficient in the amount of time they are able to spend with a-v equipment. Students are not fully competent in operating equipment. (Interviews with students, questionnaire responses from graduates and their supervisors)
Standards	Appropriate a-v equipment will be accessible to students. Trained faculty/staff will direct students. Lab hours will be appropriate for student use.	Students will be provided ample opportunity to use a-v equipment under well-trained instructors.	Graduates of program can plan for the use of a-v equipment in classroom and implement and evaluate their plans.

Judgments	Program is adequate. Antecedent conditions are likely to hamper ability of program to provide enough hands-on opportunities for students. Equipment availability must be monitored.	Program is deficient. Data show that students do not have sufficient hands-on practice. The program lacks congruence between intended and actual interactions with a-v equipment for students.	Program is seriously deficient. Graduates are not fully competent in operation of equipment, although planning for its use and evaluation of use in schools is adequately covered in coursework. Students in schools are able to draw on experienced personnel there to assist them with running the equipment. Students evaluate equipment usage.

Evaluator's Recommendations: 1. That information about the program's deficiencies in this area be communicated to administrators with budgetary responsibility. 2. That the program faculty actively seek an appropriate realignment of budget allocations to support the media component properly.

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Example 2

GOAL: Graduates will be competent in written communication; they will write fluent, coherent, well-organized prose with standard English usage and acceptable spelling and punctuation.

	ANTECEDENTS	INTERACTIONS	OUTCOMES
Intentions	Two courses in English composition completed with grades of C – or better prior to entry into the teacher education program will ensure that prospective teachers have adequate command of written communication.	Instructors in the English Department will teach the full range of writing skills to a level acceptable for any college graduate.	All graduates will be competent in the writing tasks commonly expected of teachers and will have the level of writing skill appropriate for professionals who interact with children, parents, and the general public.
Data	The selective admission system depends on instructors in the education department to identify students who have not been checked for eligibility. A number of instructors forget to do so, and ineligible students regularly complete the program. (Inspection of records, interviews with faculty and staff) Grades in the composition courses run high, and very few students earn grades lower than C – . (Inspection of records, interviews with faculty and staff)	The English department's philosophy stresses personal expression and creativity in writing. The graduate assistants who teach the freshman composition courses are told not to teach or evaluate usage, spelling, or punctuation, but to refer deficient students to the developmental center for tutorial assistance. Students are urged, but not required, to visit the center. (Interviews with English department staff)	Instructors in the education department complain strongly that many of their students do not write well enough. They express considerable frustration over the situation and feel they do not have either time or expertise to teach basic writing skills. Cooperating teachers express dissatisfaction with the writing skills of some student teachers and report that these student teachers cannot acceptably complete basic writing tasks—lesson plans, written materials for pupils, reports, communications to parents, etc. (Interviews with faculty, cooperating teachers)

Standards	The criteria and criteria levels for admission to the teacher education program will select only those students with the desired characteristics. The selective admission system will operate to apply the specified criteria to all candidates for admission to the program.	The instructional component linked to the selective admission system will in fact address all the competencies the program owners believe should be addressed.	Students in the program will display competence in writing in their course assignments and in their field assignments.
Judgments	Program is deficient. It lacks congruence between the intended criteria and what the criteria actually reflect and between the intended and actual system for assessment.	Program is deficient. The English department's perception of its mission is a contingency that powerfully limits the program's attainment of this goal.	Program is deficient. It lacks congruence between the intended outcomes and actual outcomes reported by instructors and school personnel for a significant number of students.

Evaluator's Recommendations: 1. That the program faculty work, perhaps with the English department, to develop an alternate system for assessing basic writing skills and for requiring remediation for students who are deficient. 2. That the administrative procedures for selective admission be redesigned to ensure that all students are checked for eligibility at the appropriate point.

Example 3

GOAL: Faculty workload will permit adequate time for instructional preparation, advising students, meeting with students outside of class, professional development, and research and service.

	ANTECEDENTS	INTERACTIONS	OUTCOMES
Intentions	Program faculty will be assigned eight to twelve quarter hours of classes by departmental policy, with attention to factors such as number of students, level of students, administrative or service assignments, and obligations for research and with attention to balancing workloads across quarters. Overload teaching will be voluntary and compensated.	The department chair, in consultation with program faculty, will assign faculty loads on an equitable and flexible basis and develop resources for part-time and adjunct faculty to meet special needs for staff.	Program faculty will have adequate time for the array of tasks that directly and indirectly promote quality instruction.
Data	Departmental records show that the load assignment policy is reasonable, given the number of faculty and students and the non-teaching obligations of faculty, and that exceptions to it are supported by justifications. Because neither institution nor department faculty have adopted a policy limiting overload, the department chair does not believe she can	The department chair follows the accepted policy for regular load assignment. She determines assignments in conjunction with program faculty. Because the institution has no clear policy limiting overload, a few faculty voluntarily accept overloads that appear unreasonable. These faculty do not agree that their loads are excessive.	With a few exceptions faculty have adequate time for their responsibilities. The few cases of excessive overloads occur primarily in the summer. Students report shortened class time, few outside assignments, and heavy reliance on "packaged" instruction and "guest" instructors.

	limit faculty's voluntary participation in on-campus, extension, and inservice teaching on an overload basis. In one area, a faculty member feels obligated to accept unwanted overload assignments to meet departmental staffing needs. (Departmental records, interviews with faculty)	Except for one specialty, the chair and program faculty have identified a stable group of part-time and adjunct faculty with appropriate credentials. Designated faculty orient new part-time and adjunct faculty. (Department records; interviews with the head of teacher education, department chair, part-time faculty, and program faculty)	Instruction provided by part-time and adjunct faculty conforms to standards and curricula established by the program faculty. (Interviews with students, faculty, department chair, and part-time faculty; student evaluation of courses and instructors)
Standards	The plan for determining faculty workload will permit adequate time for the array of tasks that directly and indirectly promote quality instruction, and extra effort will be voluntary and rewarded.	Administrative procedures will properly allocate faculty time and will be applied consistently and judiciously. Part-time and adjunct faculty will be professionally competent, and their use will be monitored to maintain program quality.	Faculty will have and make productive use of time to prepare and provide instruction of high quality. Exigencies of staffing will not diminish the continuity and quality of instruction intended by program faculty.
Judgments	Program is adequate with deficiencies noted in isolated instances. The plan for allocation of instructional load is appropriate. Questionable deviations are few and isolated.	Program is adequate with a deficiency noted in one area. Generally, administrative procedures result in consistent and equitable allocation of faculty effort.	Program is adequate, but in need of review by program faculty. Overall, faculty workoad is reasonable, with the exceptions noted.

Evaluator's Recommendations: 1. That the program faculty review the effects of excessive overload teaching on the integrity of the curriculum, with particular attention to the summer semester. 2. That efforts be made to develop additional faculty resources in the one specialty area through future hiring, a search for qualified personnel in local school districts, and/or professional retraining.

Example 4

GOAL: Students will participate in extensive field experiences prior to student teaching. Field experiences will be planned, supervised, and evaluated. During field experiences, students will experience specific examples of practice related to theory and will themselves practice and develop specific skills.

	ANTECEDENTS	INTERACTIONS	OUTCOMES
Intentions	The Field Experience Office staff will place students in appropriate field sites to meet objectives determined by the faculty.	Students will engage in a graduated series of field experiences tied to specific course content and objectives. They will observe selected examples of theoretical concepts and practice selected skills.	Students will enter student teaching prepared to assume instructional responsibility more quickly. Student teaching will focus more on refining students' practical skills, so graduates will exhibit a generally higher level of competence as beginning teachers.
Data	Field assignments are made accurately and promptly. Teachers are informed of the various field experiences through personal contact and printed materials; and students are oriented to objectives and expectations, schools, appropriate behavior, etc. Systems for recording field placements, disbursing honoraria, and evaluating placements are comprehensive and effective. School personnel report excellent rapport and frequent communica-	Students do in fact complete the intended field experiences. Faculty exhibit a strong commitment to the field component and systematically supervise and evaluate their students' performance. Program faculty identify students who experience difficulty in field work for remediation, counseling, or dismissal, as each case necessitates. Students value their field experiences and report increasing confi-	Cooperating teachers who supervise student teachers report a definite increase in the skill and motivation of student teachers since the implementation of an expanded field experience component. Recent graduates of the program report increased confidence in their ability as beginning teachers compared to earlier graduates and rate their field experiences very positively. (Interviews with cooperating teachers, follow-up surveys of graduates)

	tions with Field Experience Office staff and effective procedures for dealing with problems related to field experiences. When appropriate field sites are not available locally, students are transported to appropriate sites. (Field Experience Office records, interviews with Field Experience Office staff, faculty, school administrators and teachers, and students)	dence and skill in the required activities. Students can themselves explain what they are doing and why. (Transcripts; syllabi; course materials; interviews with faculty and students; observations of field experience activities)	
Standards	Administrative procedures for the field experience component will be accurate, comprehensive, and prompt. Field sites will be appropriate for specific objectives. Effective communication will be maintained with school personnel.	Students will engage in a planned series of field experiences in appropriate sites. Activities will promote students' mastery of theory and practice. The field experience component will be planned, supervised, and evaluated by faculty.	The field experience component will increase markedly graduates' competence as beginning teachers.
Judgments	The program is commendable. Antecedent conditions in terms of administrative resources and procedures and field sites are fully realized.	The program is commendable. Intended interactions are worthwhile and occur with exceptional quality.	The program is commendable. Positive, concrete outcomes occur and are evident to the program's clients.

VI

CONCLUSION

Recently, the public has developed an intense interest in education and leveled harsh criticism at teacher preparation. These complaints (some of them justified) must be addressed by teacher educators. However, in many cases, the public and its representatives speak from inadequate or misinterpreted information. The situation provides an excellent opportunity for teacher educators to respond proactively by developing comprehensive systems for evaluating their programs. Teacher educators must clarify for themselves, their clients, and the public exactly what their programs do, under what constraints, and to what degree of success.

We encourage teacher educators to think of program evaluation as a normal, useful activity not restricted to evaluation specialists. We have attempted to provide not a narrow prescription, but rather a framework for thinking about evaluation in context, either to design a comprehensive, ongoing system or to improve an existing one.

The public and other clients of teacher education have a right to current, accurate information about the quality of teacher preparation programs. Teacher educators need the same information for self-improvement and also as concrete evidence of the contributions they have made to the preparation of effective school personnel.

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